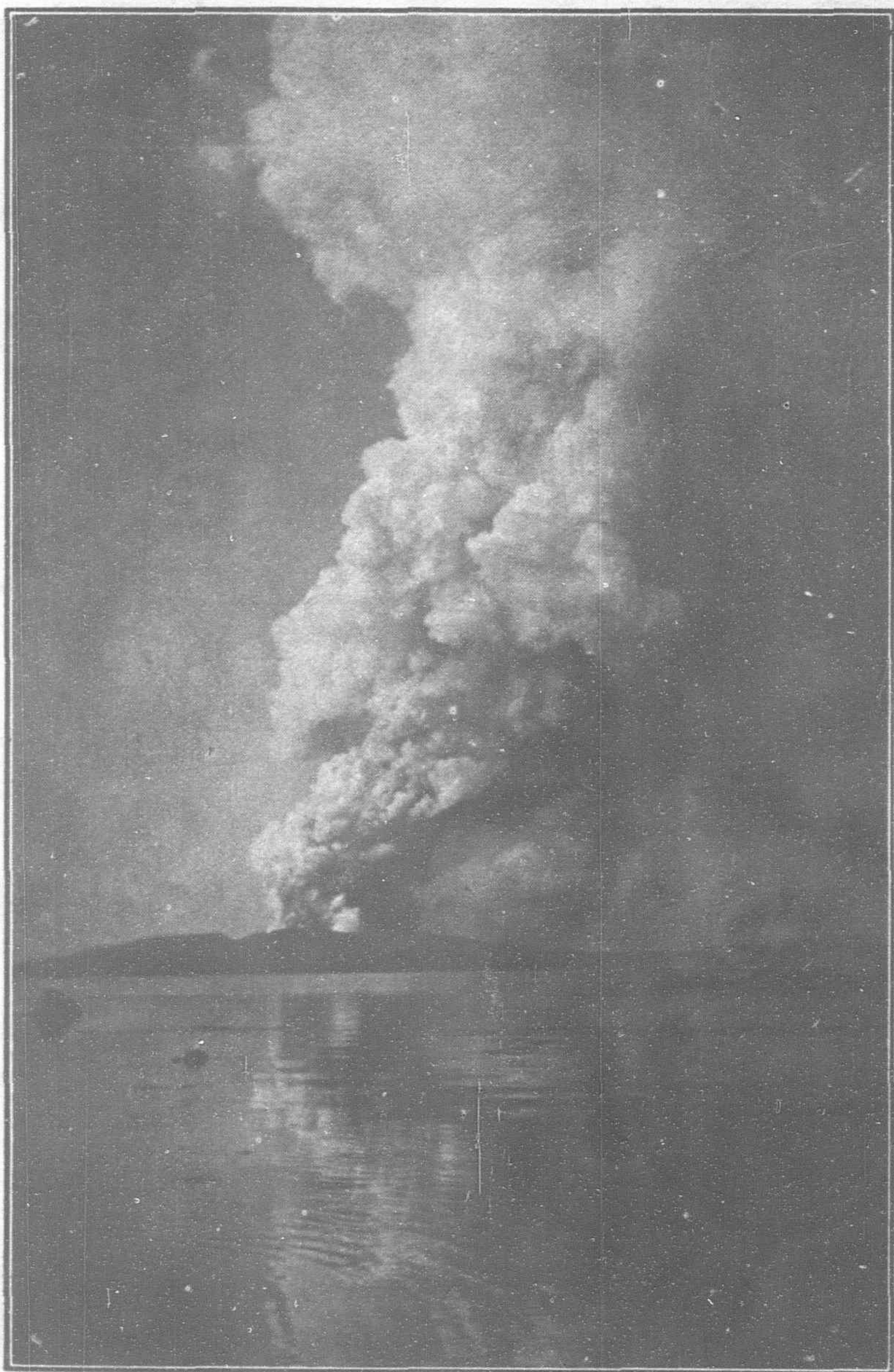


THE FAR EASTERN REVIEW

VOL. VII.—No. 9. MANILA, SHANGHAI AND YOKOHAMA, FEBRUARY, 1911.

50 Centavos Philippine Currency
25 Cents. U. S. C.

The "Maine:" Thirteen Years After



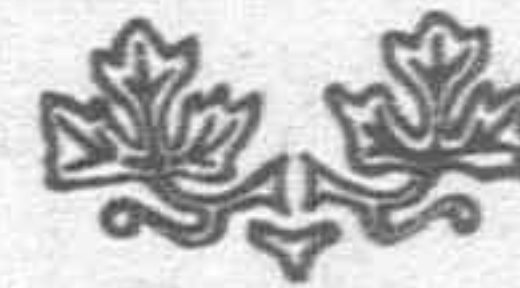
G. O. Deitrich, Photographer

VIEW OF TAAL VOLCANO

Taken Morning After Eruption Which Killed Over 1,500 Natives



The Taal Disaster



American Capital in the Philippines



Present Status of Mining in the Philippines



General News and Comment

ENGINEERING

COMMERCE



FINANCE

Hongkong and Shanghai Banking Corporation

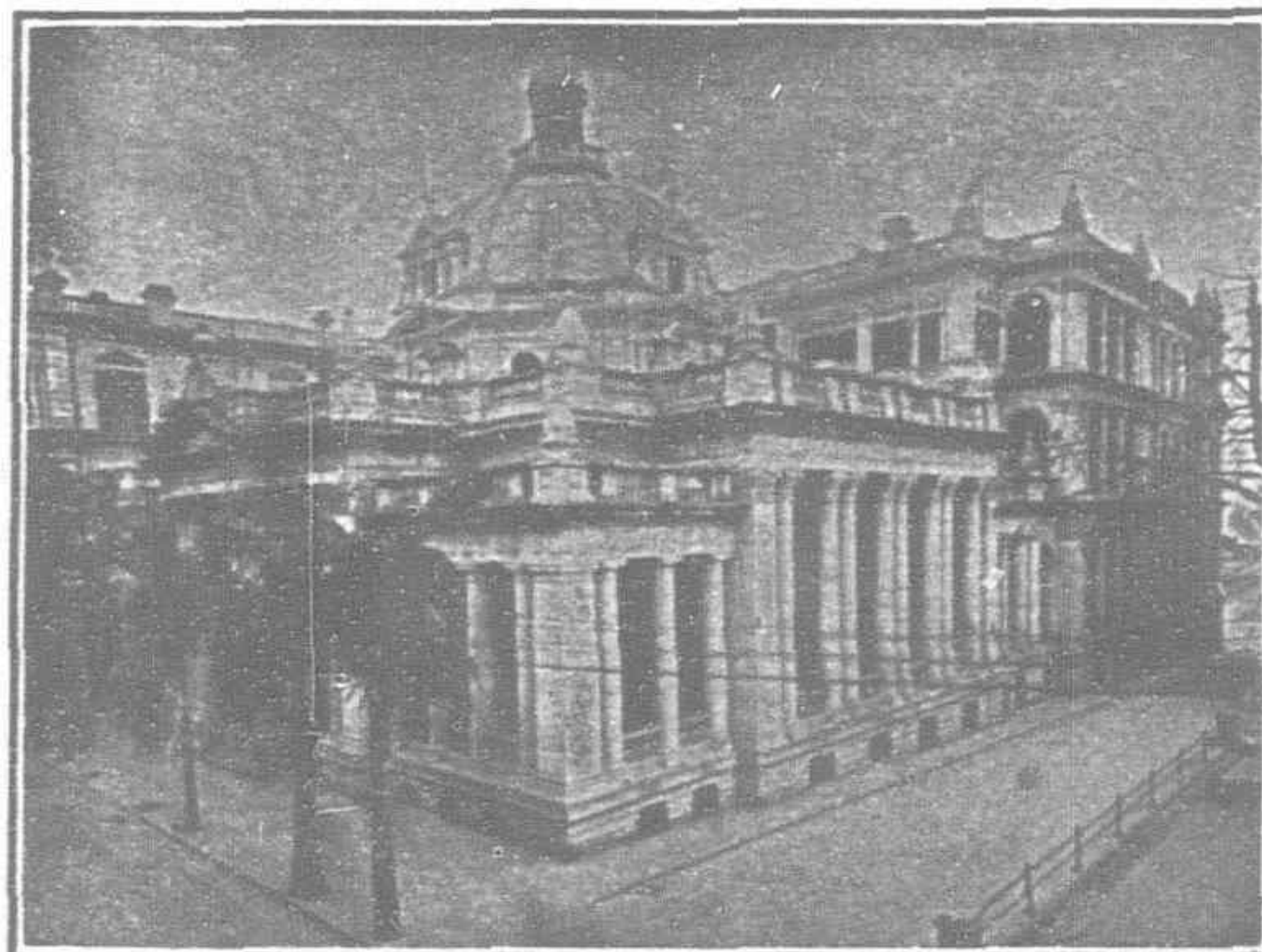
DEPOSITORY OF THE GOVERNMENT OF THE PHILIPPINE ISLANDS

Capital (Paid in Cash).....\$15,000,000
Sterling Reserve Fund.....\$15,000,000

Silver Reserve Fund.....\$16,000,000
Reserve Liability of Prop'rs.\$15,000,000

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AND FOR THE FUNDS OF THE GOVERNMENT OF THE CANAL ZONE

GENERAL FOREIGN BUSINESS TRANSACTED

COMMERCIAL AND TRAVELLERS' LETTERS OF CREDIT ISSUED

BILLS OF EXCHANGE AND CABLE TRANSFERS BOUGHT & SOLD

THE FAR EASTERN REVIEW

COMMERCE • ENGINEERING • FINANCE

VOL. IX. 7 MANILA, P. I., SHANGHAI, AND YOKOHAMA, FEBRUARY, 1911

No. 8. 9

THE *MAINE*: THIRTEEN YEARS AFTER

A TALE OF TWO CORRESPONDENTS

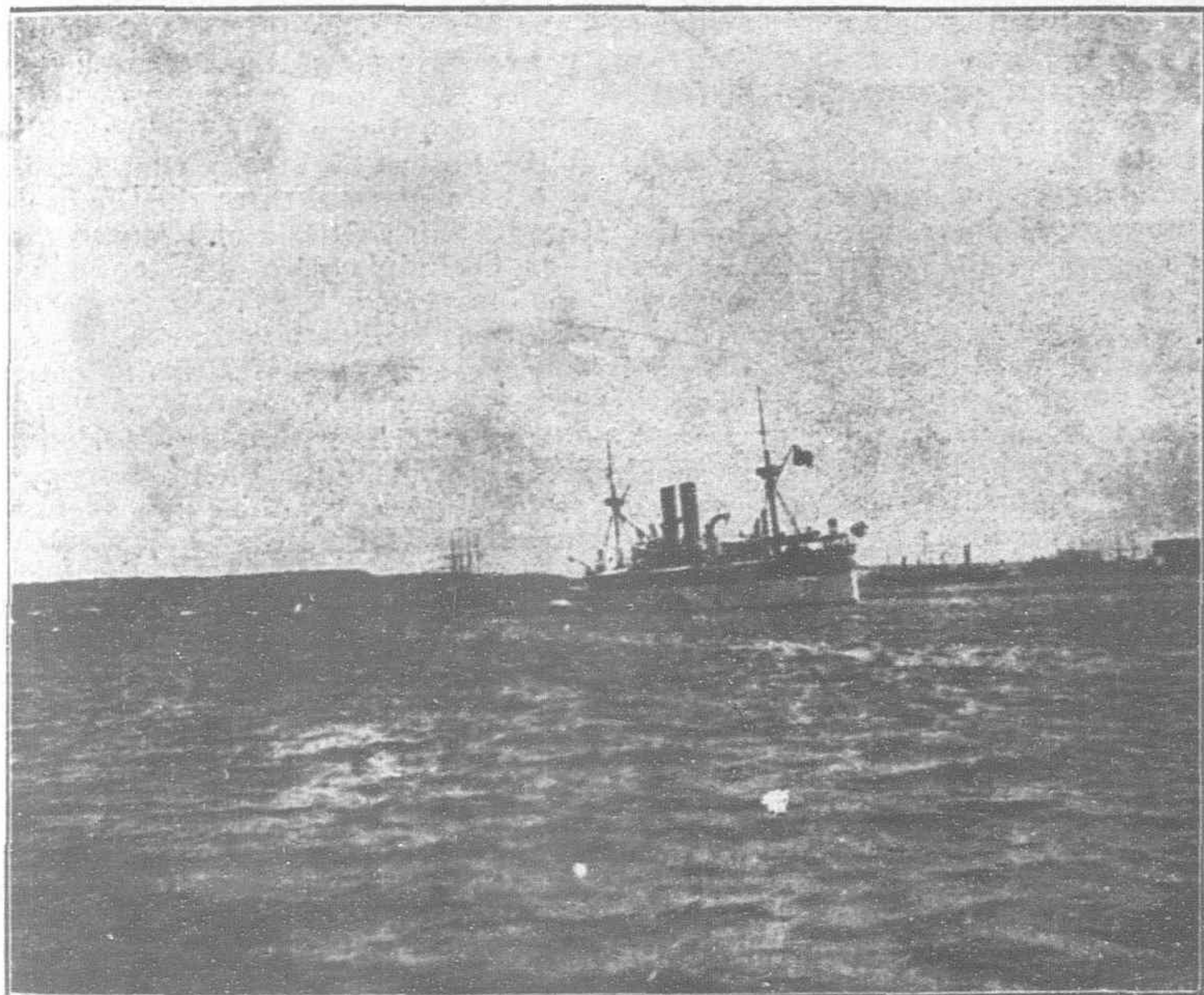
A TRIBUTE TO ONE OF THEM FROM THE OTHER

Foreword.

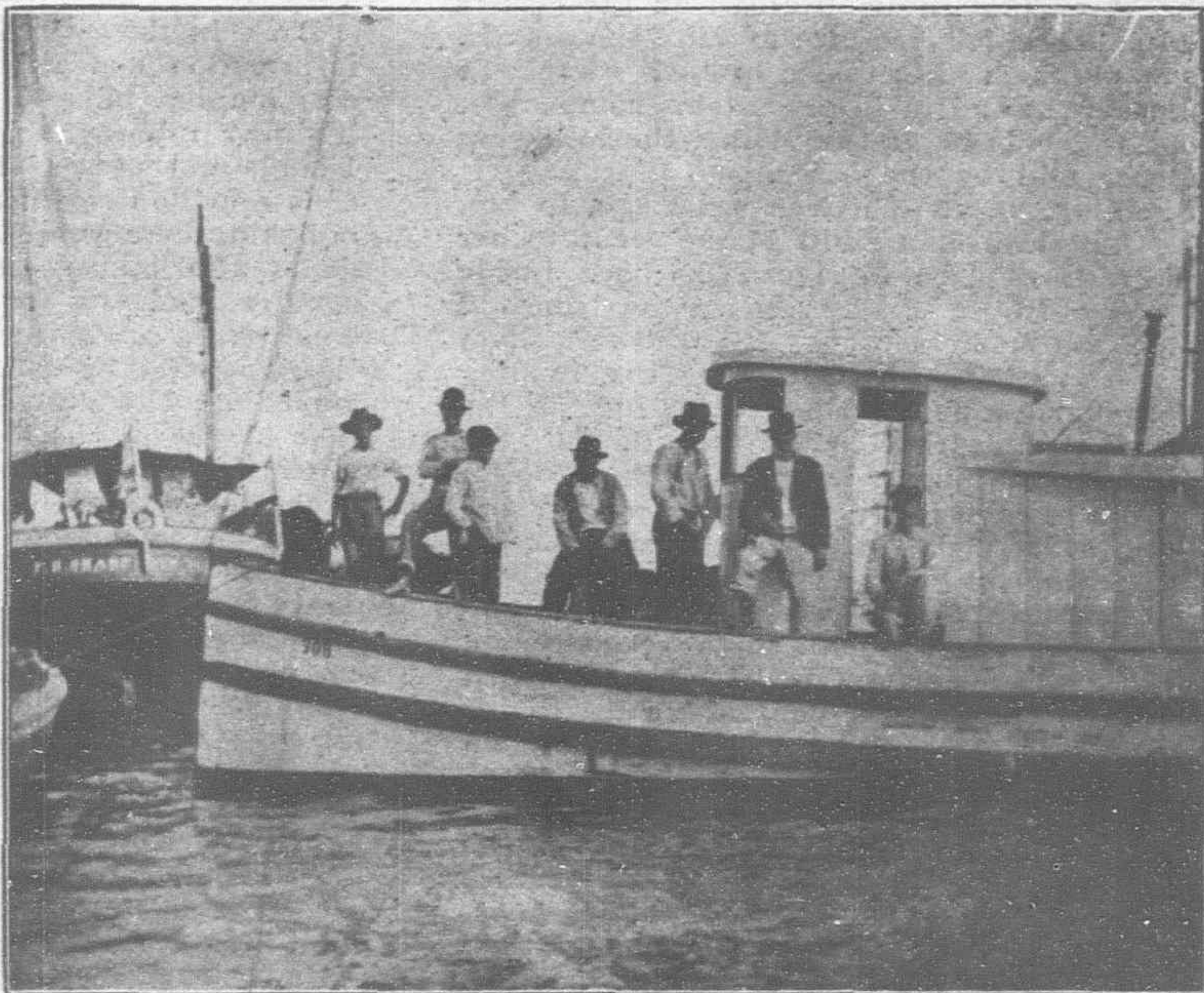
The story of the *Maine* has been told and retold, and little remains to be added to Captain Sigsbee's final word on the sinking of his ship, published two years ago. There is only one obscure point that requires explanation, and that is the persistent story that

the *Maine*'s officers were on shore the night of the disaster, enjoying themselves. This story is still given some credence in the United States, while no contradiction can shake the Spaniard's belief in its veracity. Captain Sigsbee wrote with some feeling on

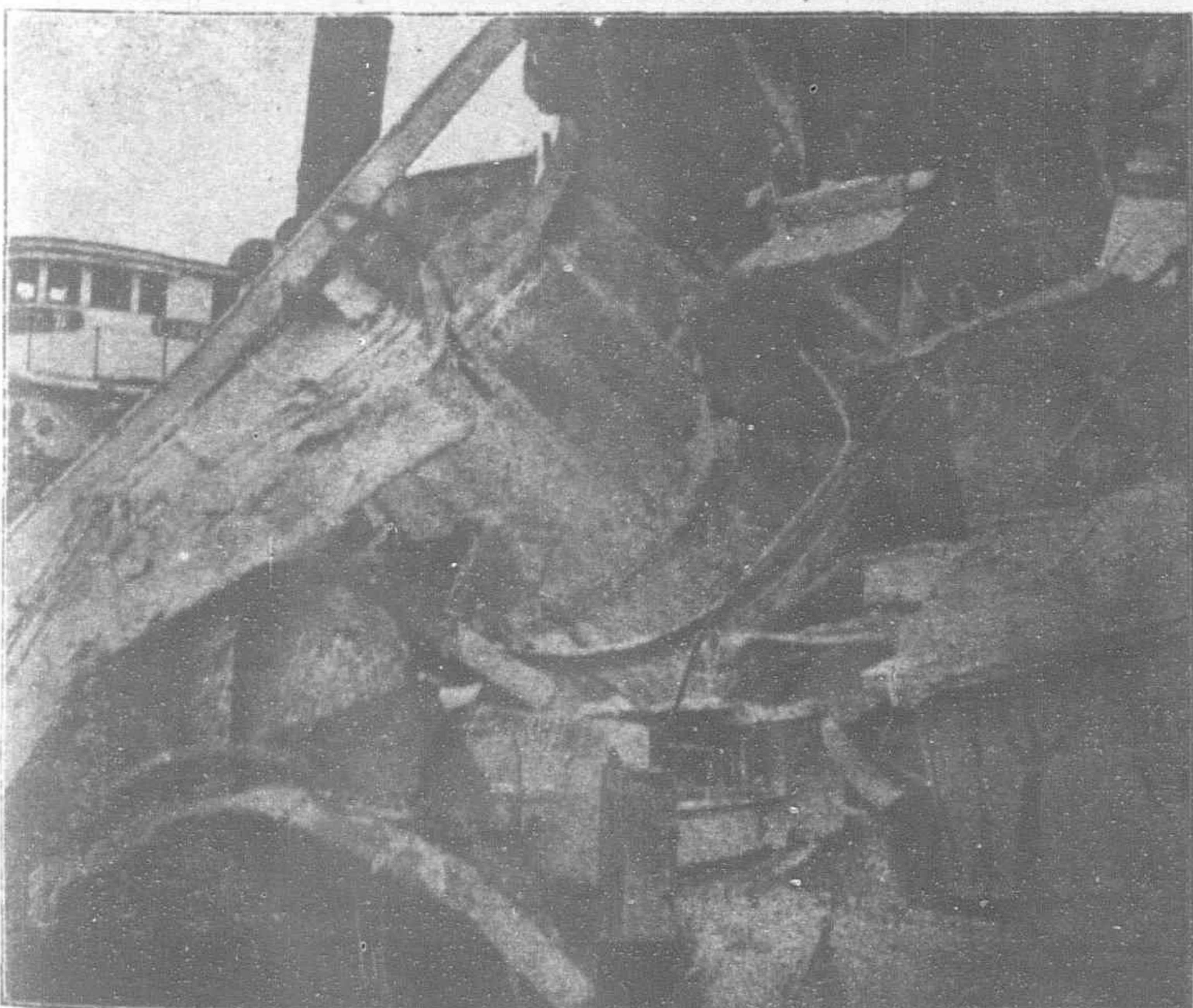
this point, and briefly explained that there was a seeming basis for the belief, being cognizant of the facts herein related. The personal movements of correspondents, serving their papers in war time, are not published as news, and modesty forbids writing



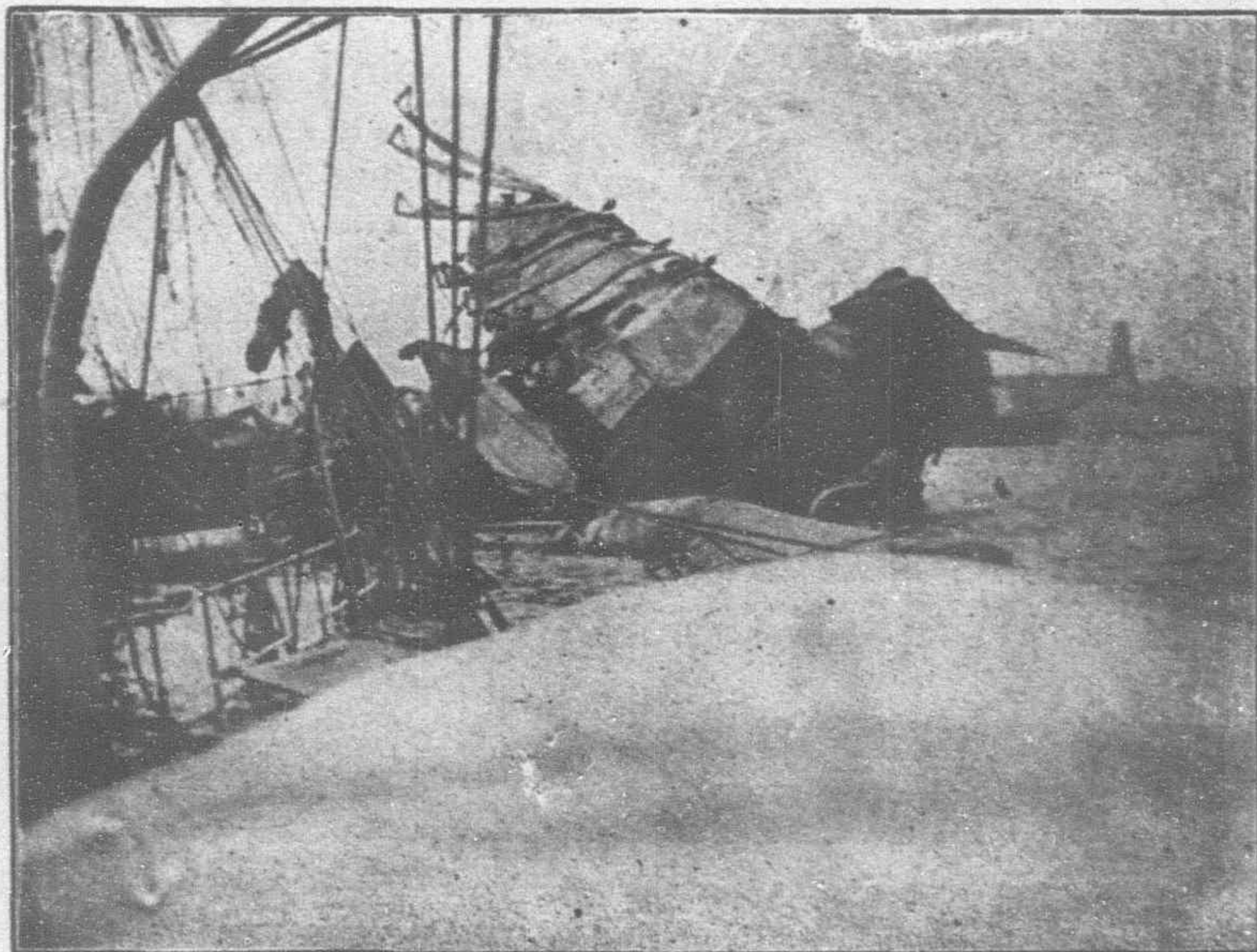
THE *MAINE* IN HABANA HARBOR



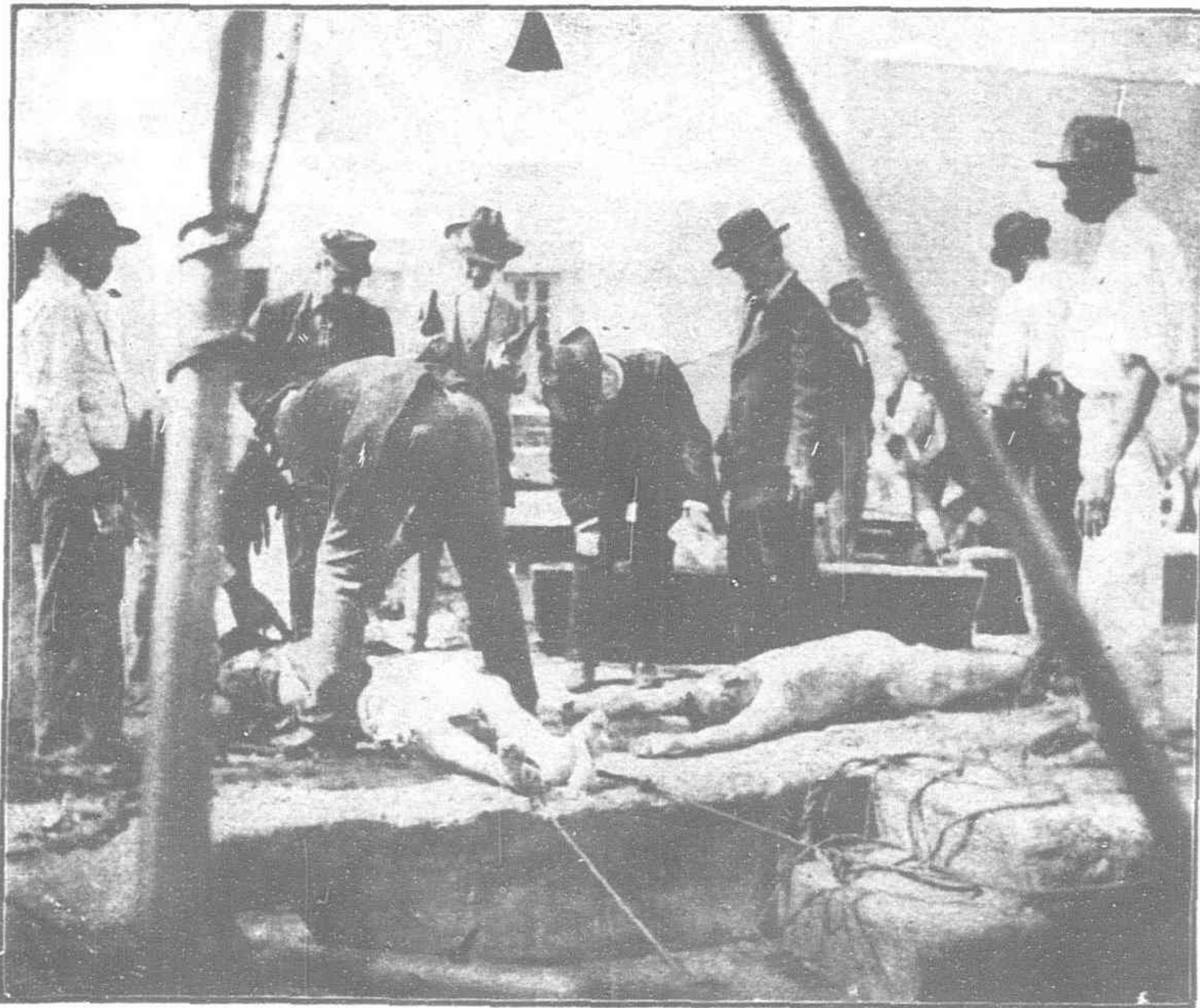
THE SPANISH AND AMERICAN DIVERS' BOATS



LOOKING INTO THE MASS OF TWISTED WRECKAGE



LOOKING FORWARD FROM THE STARBOARD QUARTER



RECOVERING AND IDENTIFYING THE MANGLED BODIES AT THE MACHINA

about one's own adventures. For this reason neither of the correspondents responsible for the story that threw discredit on the officers of the Maine felt inclined to write the details. One of them has since passed away. In memory of and in justice to his companion, and the officers of the Maine, the following tale is told by the other.

Feb. 15, 1911.—Thirteen years ago, to-day, the American Battleship Maine went to her last resting place in Havana harbor. Inside the steel-ribbed casket repose the bones of some 200 wearers of the Blue, whose lives were suddenly extinguished by the rending of the magazine, or the strangling of the waters that swirled in as the illfated ship sank to her mud coral bed of the tropical harbor. The tragedy was quickly over, and assumed its place in history as marking the commencement of the war between Spain and America. Many articles have been published giving the details of the catastrophe, but there remains a tale to be told which fits in to the events of that awful night, and throws some light on one or two obscure points. It is a tale of two correspondents; war correspondents they were called at that time. One of them, the most important to this story, has since departed for that other world where all is peace. The other, he is still on the "war path," and on this, the thirteenth anniversary of the calamity, feels that in justice to his companion and to

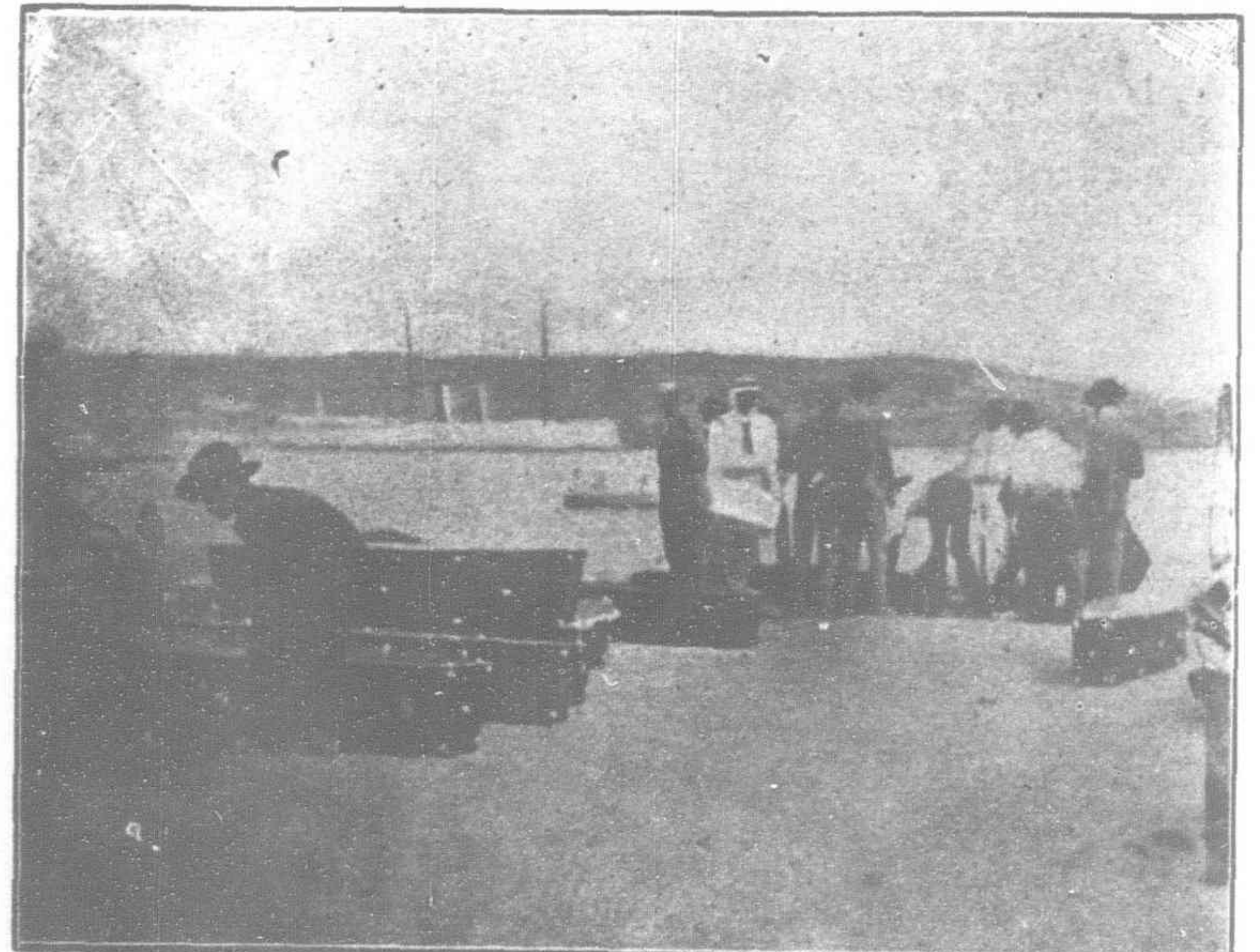
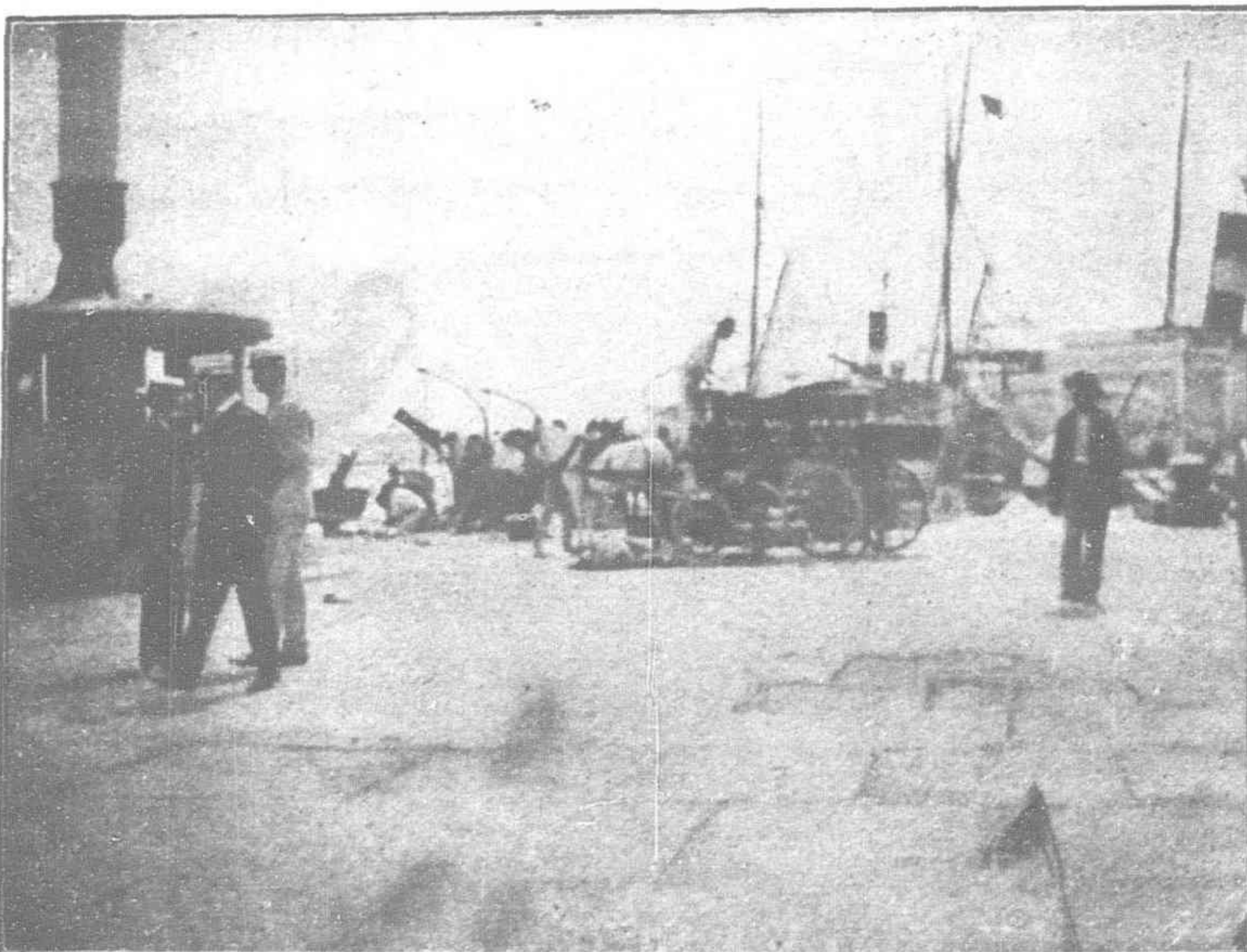
round out Captain Sigsbee's narrative, the following tale should be told.

Back in the early nineties, while the Cuban insurrection was at its height, when massacre, murder, pillage, incendiarism, rape and highway robbery held high carnival in the Island, and passed as incidents of a righteous rebellion against the dominant power of Spain, there were few newspaper correspondents who braved the dangers of the open country, and saw for themselves the actual conditions, or who witnessed the savage battles, guerrilla fights, ambushes and bushwhacking which made up the war. In addition to the ordinary hazards attached to the mission of a war correspondent—which is all in the day's work—there was the further danger of being captured and executed as a spy, for General Weyler had prohibited correspondents from entering the country and joining the Cuban army under penalty of death, if captured.

In other wars the correspondent had his recognized, though limited, rights, and marched with and under the protection of the army to which he was accredited. If captured by the opposite side, his status was well defined. But in Cuba he worked alone, with a continental army against him, and in constant dread of capture and death.

Under such conditions, it is little wonder that few men would take the chances, and

it explains why during all that long-drawn-out nightmare of butchery, only three American correspondents entered the field and witnessed the bloody struggle that was slowly but surely exterminating the Cuban people. Of these three men, one campaigned in the East with Calixto Garcia and Gomez, being present at the hottest fights in that section, while the others passed through the brunt of the struggle with Gomez and Maceo, and between them participated in over 100 engagements, and traversed the unhappy Island from end to end. This story has to do with these two. Their names—it doesn't matter. To each other they were known as "Brian Boru" and "Face". Boru was a New Yorker, a wild, red-headed chap, who in those days was always looking for trouble, and as usual found it waiting for him, and explains his presence in the war. He was correspondent of one of the large New York papers. He deeply resented being nicknamed "Boru" by his companion and tried to mislead him in a gentle way by saying that, in the long ago, his family name was German, with a "von" in it somewhere and a handle attached to it, and that he had a family crest and the rest of the paraphernalia which accompanies these things, to prove his origin and good old Teutonic descent. But it was useless, for the other answered very quickly that he didn't care how many crests or handles



AT THE MACHINA; TWO DAYS AFTER

there might have been to the name long ago, anybody could readily see by a look at the "mug" now that it had the map of Ireland stamped indelibly on it, and if there was any family crest at all, which he doubted, it traced back to his lineal ancestor, Brian Boru. The argument was closed after the usual Celtic manner of settling affronts of that nature in which the Celt was worsted. So he accepted the situation, and the name stuck.

The other was a graduate of a college in the middle West, a manly, handsome chap, and all round general athlete. He represented another of the great New York papers. An intense professional rivalry existed between the two, as was only natural when their respective papers demanded the news first. For a long time Boru called his companion by his first name, but all the while seeking for a fitting sobriquet to offset his own. The two had been separated for a month and Boru was on the trail of the other, trying to catch up with him in the mountains of Pinar del Rio. Halting for lunch at a lonely farmhouse, he enquired if an American passed by the day before. In the family were three pretty daughters, who all answered at once that he had been there and remained for several hours and marched on with his escort. And they went into raptures describing his good looks, and kept repeating again and again, "What a face he had". So Boru reciprocated by calling his companion "Face", as the most appropriate nickname to fit his well known qualities.

For a long time the latter fondly accepted the term as the compliment it originally meant, and was accordingly pleased, but one day it dawned on him that it had another meaning, and referred to his "Cheek", which of course was exactly what Boru had in mind.

For if any man in the world possessed this quality, it was Boru's companion. For cool, unadulterated, downright nerve, he has rarely been equalled in the journalistic field. With a little more leeway he would have managed the entire Cuban insurrection and had Gomez obeying his orders and following his plan of campaign. Audacious, nervy, reckless, impetuous, rash—yes, he was all of these, but at the same time he was one of the truest friends and bravest men that ever stood in shoe leather. He also keenly resented his nickname, and, in the middle of a march, dismounted from his horse, and demanded that Boru should never again so address him. Boru also dismounted, and in this occasion had the best of the argument, so the name stuck, and to each other for ever afterwards it was "Boru" and "Face". But no one else ever dared to so address them.

Standing by the side of Gomez, together they witnessed the heaviest fights of the invasion, and riding with Maceo, they took part in the mad cavalry dash through the many battalions of Spaniards into Pinar del Rio, leaving a trail of fire and death behind them. At the bloody machete charge at Mal Tiempo where the Spanish regiment of Canarias was annihilated they were present; through the hell at Cacarajicara, the fierce attacks at the Tapia Hills, at the rout at Morales, the surprise at La Luz, the victory of Cabanas they were side by side. Through scores of other engagements they faced death on the firing line at the side of Gomez and Maceo, and other Cuban chiefs. Together with their personal escort of eighteen veterans under command of the noted bandit Mirabal, they traversed the provinces of Havana and Pinar del Rio, and met with many a hair-breadth escape. Together they crossed and recrossed the Spanish lines, stealing into Havana and other heavily fortified towns to place their dispatches into friendly hands, and as silently departing again for the country, with the entire machinery of the Spanish Police force and Secret Service in motion to capture them. Together they crossed the famous "trocha" or fortified line in Pinar del Rio, with their escort of eighteen men, a feat accomplished by only five parties

during the war, and which resulted in disaster to the others. Together they faced death more times than it is seemly to brag of or to write about. When death seems sure, and no escape possible, the real natures of men arise to the surface. And so Boru and Face came to know each other's hearts, and were drawn together in a bond of friendship that bitter professional rivalry could not shake. For each had saved the other's life on various occasions.

When Boru was nearly dead with fever and dysentery in the hills of Pinar del Rio, it was Face who came along with medicines at the critical stage and nursed him back to strength. When their escort foolishly ran into an entire Spanish regiment at Quivicán, ambushed and awaiting their approach, and Boru's horse was shot under him, and held him pinioned to the ground, and the Spanish guerrillas were not 100 yards behind, charging with flashing machetes to dispatch the prey, it was Face who, in the midst of a withering fire, reined up, dismounted and assisted Boru to disengage his imprisoned leg, and to mount again behind his horse, and escape to the shelter of the cane fields beyond. And the Bravo that the crime-hardened guerrillas gave at this exhibition of sheer nerve, and the Vivas of the regulars in ambush showed that they appreciated. The Victoria Cross and the Medal of Honour were designed for deeds like this. When Boru was down and out with fever and lost his nerve at the crossing of the "trocha", after three days in the Majana Swamp with the alligators and constrictors, it was Face who cheered him up, gave him brandy, and lent a helping hand over the dangerous places and when at the critical moment of dashing between the forts, and the air was seething with the hiss of bullets, Boru slipped from the slimy tree trunks and went down into the mud and water over his head and thought the end had come, it was Face who halted, reached down and put his arm around him, and pulled him out, and steadied and guided his half blinded companion over the quivering network of logs and brush through the zone of fire into the safety of the forest. "Buck up, Boru, you red headed Irishman" was all he said. When Gomez first ordered Boru from his camp, and threatened to shoot him as a spy, because he possessed a Spanish military pass, it was Face who interceded and calmed the irate chieftain, and led the old warrior to offer Boru the command of the Cuban Engineer Corps. When at La Luz, the charging Spaniards again disabled Boru's horse, Face stood by and saw him through and out of the cul-de-sac. When Boru was wounded, and his horse again killed, and his clothing and hat riddled with bullets, it was Face who was at his side and gave him the first aid, and forced a reluctant cavalryman to dismount and give up his horse for his wounded companion. And, when it looked as though the last hour had struck for Face; well that is another story. Face has since faced the reaper, and been gathered in, and can't speak for himself, so that story will never be told. But Boru evened up the tally.

It was carnival time in the gay capital of Cuba. The streets of Havana were filled with merry makers and pleasure-loving Cubans intent upon enjoying the last days of the Lenten season. Beneath the grotesque masks and dominoes of the moving throng, the onlooker who knew his Havana might recognize some of the turbulent intriguers of the many political factions into which both Spaniards and Cubans had split. Under cover of the carnival disguises, many otherwise prudent Cuban patriots were flitting about the streets intent upon dangerous missions impossible of execution if their faces were recognized. Cuban officers from the country, who had slipped in through the lines for a sight and touch of their loved ones, risking death at sunrise if recognized or betrayed, braved it all, and joined the procession on the Prado. The jests and quips, mirth and laughter, the chatter and banter of the groups

of passers-by, the antics of clowns, the glances from the langourous eyes of beautiful women, all seemed strained and unnatural. Something was lacking. The old fashioned Carnival spirit seemed absent this year. The political cauldron was seething and boiling over in its stead, and a feeling of impending disaster was in the air. Two weeks previous a bomb had been thrown in the leading theater of the capital, and rumours were rife that the next one would find lodgement in the Palace of the Captain General or the American Consulate. Since the arrival in the harbor of the Battleship Maine, the feeling against the Yankees had crystallized into an intense hatred, and threats were freely indulged as to the fate in store for them, after the Consulate had been destroyed. Trouble had been brewing for months, and under cover of the Carnival it would come to the surface. And Boru and Face, whose mission in life at that time was to be on the spot where trouble was liable to break out, were there together.

On Weyler's departure, and under General Blanco's rule, they had patched up their differences with the Spanish authorities and permitted to reside in Havana, after promising the Chief of Police to cause him no more trouble. Col. Paglieri, of the Guardia Civil—the crack corps of the Spanish Army—had held the post of Chief of Police in Havana for over three years. He was an old friend of Boru's and in the days before the war, when "Old Pag" was in command of his corps in Havana Province, Boru had hunted bandits with his men in the mountainous wilderness back of Aguacate. Boru and Face, tired of being shot at in the country, had settled down to a more enjoyable and safer existence in the capital. Together they plied their calling in all the out-of-the-way and suspicious corners of Havana; they visited the Maine, and guided Lt. Jenkins, the intelligence officer of the ship, to where he could secure the data about the new fortifications. Together they sat on the night of February 15, 1898, at a table in the arcade of the Pasaje Hotel watching the passers-by. Face's wife, an intrepid and handsome girl, and the "Skipper," who represented another New York paper, completed the group.

Boru and Face knew their Havana, and knew Cuba and the Cubans. Fresh from the country and two years of campaigning with the insurgents, they knew them also, and their friends and sympathizers in Havana. Boru had been invited by Lieutenant Jenkins to dine aboard the Maine that evening, but something occurred which prevented his going, and now after dinner at the Pasaje the little party described were seated at one of the small, round, marble-topped tables in the Arcade, sipping the "refrescos" and watching the kaleidoscopic changes of the crowd. A few of the maskers nodded or whispered some slight words which revealed their identity to Boru and Face, who nodded in return, as the spoken name if overheard would have meant instant arrest and execution in the morning. The night was dark, and the thick clouds wafted out to sea by the light land breeze, shadowed the few stars that showed at intervals through the fleeces. Out in the bay the merchant ships and men-of-war lay peacefully at anchor, and as two bells struck (9 p.m.) the bugles sounded "taps" and the boatswain's whistles shrilly "piped down" for the night. Aboard the Maine, the crew turned in at the regulation hour, and the night watch was set. Although nothing had as yet occurred to indicate the possibility of war with Spain, the Captain of the Maine considered he was in an enemy's harbor, and was prepared for eventualities. It might be said that the Maine was cleared for action, for rapid fire ammunition had been brought on deck ready for serving the guns at an instant's warning, and the men held under the strictest discipline. None of the crew had been permitted shore leave, and few officers enjoyed the privilege, and on that night all the officers except four were on board.

For weeks the Maine had swung idly at her

buoy in the tideless harbor of Havana, with her bow to the light breeze, from the North and East. But on this eventful night, the land breeze shifted to the Southwest and the battleship slowly swung round to meet it, the first time since her entrance into the harbor that her bow pointed toward the Havana water front. In the light breeze she lazily swung into line and took up the slack of the mooring cables and steadied down to her new and permanent position. Here the end came and found her.

Forty minutes past nine. A terrific explosion shook the city, windows were broken, doors shaken from their bolts, and merchandise in the stores thrown from their shelves. The shock broke the gas mains along the water front, and extinguished the electric lights, and plunged that section of the city into darkness. The sky was lit up with an intense lurid glare, while high above could be seen innumerable coloured lights resembling rockets.

The first explosion was followed immediately by a second, terminating in a grating rending metallic sound as though heavy anchor chains had been quickly dragged across a corrugated iron roof. The sounds of revelry ceased before the unknown horror. Women screamed, faces paled, and strong men shook with terror. Face and Boru jumped up together. "The Palace," said one. "No, the Consulate," answered the other, for neither realized what had happened. "To your room, my dear," said Face to his wife; and he and Boru made a dash for the nearest carriage. It was a handsome private victoria, owned by an aristocrat of the city, with a uniformed driver on the seat, holding the reins over two blooded Andalusian horses. He was paralyzed and blanched with fear, but mustered up sufficient courage to say that the carriage was private and could not be used. Boru and Face had worked so long together that a glance or word in such emergencies was sufficient for each to take up his share of a difficulty, and here was a situation that demanded instant and urgent action. As Boru sprang into the carriage, Face jumped on the box, grabbed the reins and before the astonished coachman at his side could remonstrate the thoroughbreds were dashing around the corner and headed towards the lower part of the town. The coachman regaining his courage laid his hands on Face to check the mad rush of the carriage, but Boru from behind slipped his arm around the flunky's waist, and jerked him bodily in the cushioned seats behind, and then sat on him. Boru tried to explain and sat matters right with the infuriated Spaniard by offering him some gold, but he spurned the "centenes" and demanded to be released, and then lustily screamed for the Police. So there was nothing else to do but muzzle him, and knead some sense into his head. With Face standing in the driver's seat, bending low like a charioteer, lashing the terror-struck steeds, the carriage turned into Teniente Rey on two wheels, and was nearly dashed to pieces against the corner. Ahead, the street frowned like the mouth of a dark canyon. Not a light or sign of life was visible. Over the great paving blocks, the carriage bounded, swaying from side to side of the narrow "calle", now on one wheel, now on two, and at times the four wheels seemed to leave the ground altogether. The coachman had been quieted and lay huddled and thoroughly subdued on the floor of the victoria. Dark forms were distinguished in the doorways of the stores, and above the hoof beats of the steeds, and the rattle of the carriage, the word "Maine" was continually repeated. It was only then that the truth flashed across Boru's brain. Up to that time they were directing their course towards the American Consulate which lay a few blocks ahead. "Great God, Face, it's the Maine! To the Machina! Faster old man, faster." And Face urged the animals to further speed. "Take the whip, Boru!" And while Face bent low and held the reins in a firm grip, Boru, with one hand holding on, lashed them into a frenzy. How Face kept his feet was a miracle. Boru expected every

moment to see his companion hurled to the street in one of the violent lurches of the vehicle, and for a time held him by the waistband of his trousers. But Face was in his element and performing in grim earnest now what he had frequently practiced in the past. For at one time he had been a member of a crack Cleveland Cavalry troop that was escort to Governor McKinley—and fancy bareback riding was one of his many accomplishments. Boru had witnessed him on several occasions standing balanced on the back of a restive charger in the midst of a heavy engagement so as to get a better view through his field glasses. Boru always called it playing to the gallery, and d—n foolishness, but Face never minded his criticisms. The Cubans liked it, and thought he was a great man, so Face was satisfied.

And the distance was soon covered. Probably never before or since has the staid old capital witnessed such a mad race. As the carriage swung around in front of the Custom House, its course was abruptly checked, for ahead the street was packed with a wild mob of Spaniards hurrying around the corner by the old Post Office into the little square where the water front gate lets into the Machina, and the Landing Stage. Only by pulling the animals back on their haunches and swerving them around against the stone walls of the Custom House was their career checked, and just in time to avoid running down and over the crowd ahead. Face and Boru jumped out, and the latter threw a couple of gold pieces into the coachman's hat, but instead of accepting he loudly yelled for the Policia. The two companions cared nothing for the police now. They were intent in getting around the corner and out on the wharf, where the truth and extent of the calamity could be verified. Ahead surged the crowd of excited Spaniards. Delay meant quick arrest, so into the mob they jumped. They pushed, elbowed, kicked, and fought their way through the jam. Loud and deep Spanish curses were flung at the two. A blow from a heavy cane directed at Face's head was caught by Boru on the arm, and they both ducked and escaped another attack from a justly indignant Hidalgo, when Face had jabbed in the small ribs to push him aside. It seemed an hour, but it was over in a few minutes, when the two stood together on the other side of the mob, fought their way through hundreds of excited Spaniards only to find the big gates of the Machina closed, and a guard of soldiers already stationed there with fixed bayonets holding back the people from the water front beyond. Behind them the outraged mob were hurling curses and clamoring for satisfaction for the manner they had been handled.

"Open the gate!" said the two at once. "Back!" said the Guards, "no one passes here tonight." To go back meant arrest by the Police for stealing the carriage and assaulting the driver. It meant delivering them to the tender mercies of the excited crowd. To go back when out in the bay, now plain before them, their fellow countrymen and friends were struggling to save their lives, and there was a chance of doing something. Every instinct in them revolted, but there seemed no way to break through. The heavy iron gates were closed and locked, and the Guards there to perform their duty, and let no one to pass.

Who was it that spoke first, or did they both speak together. Boru does not remember, but they both lied. "Open the gates—we are two officers of the Maine, and must get through". What was a lie to them at that moment. They were accustomed to lie to the Spaniards in passing through their lines, and this was only a little white lie anyway. Little did they think that the lie thus uttered to gain their own ends would travel so far and cast discredit on the discipline and morale of the officers of the battleship. They could not see then that the mob would repeat the circumstance, and enlarge on it, or that the Spanish papers the next day would publish the story that the Maine's

officers were ashore that night carousing and drinking, instead of being aboard their ship. But that is what happened, and although it has been officially proven that only four officers (an engineer, two cadets, and the gunner) were on shore that night, the Spaniards always remember the two Americans who acted like drunken men in the wild ride and fight through the mob, and who stood disheveled and excited before the sentries at the Gate, saying, "Let us through, we are officers of the Maine".

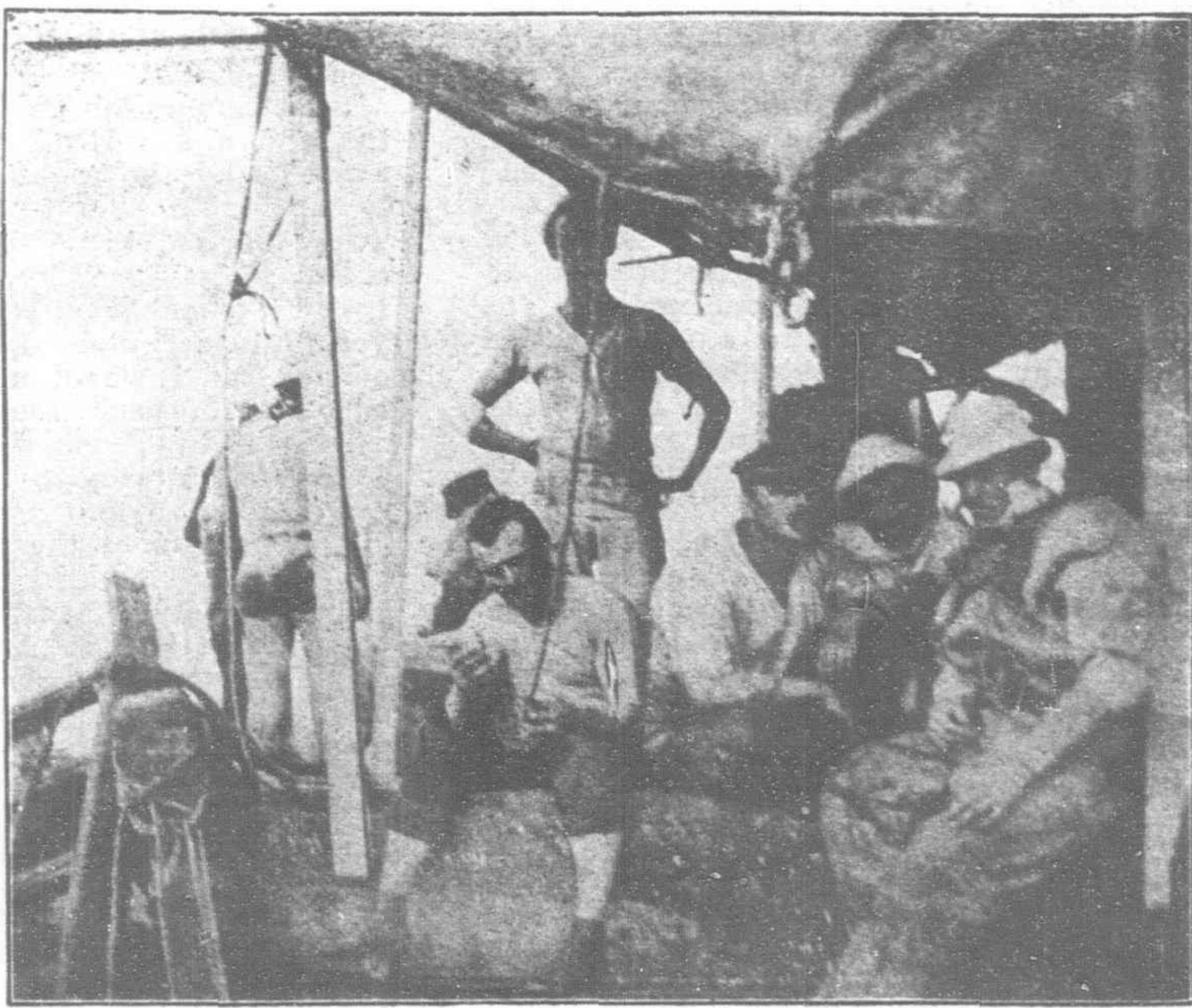
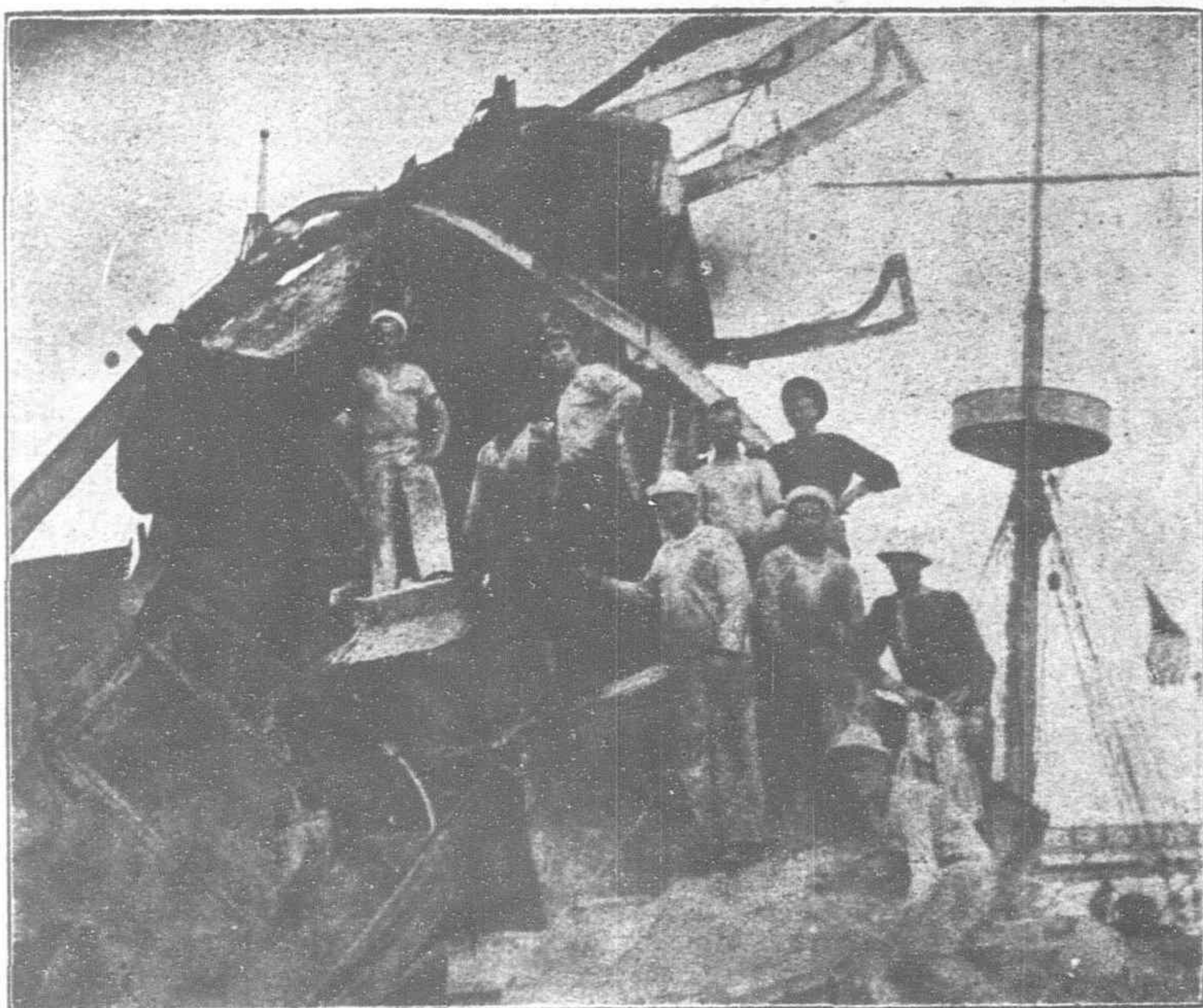
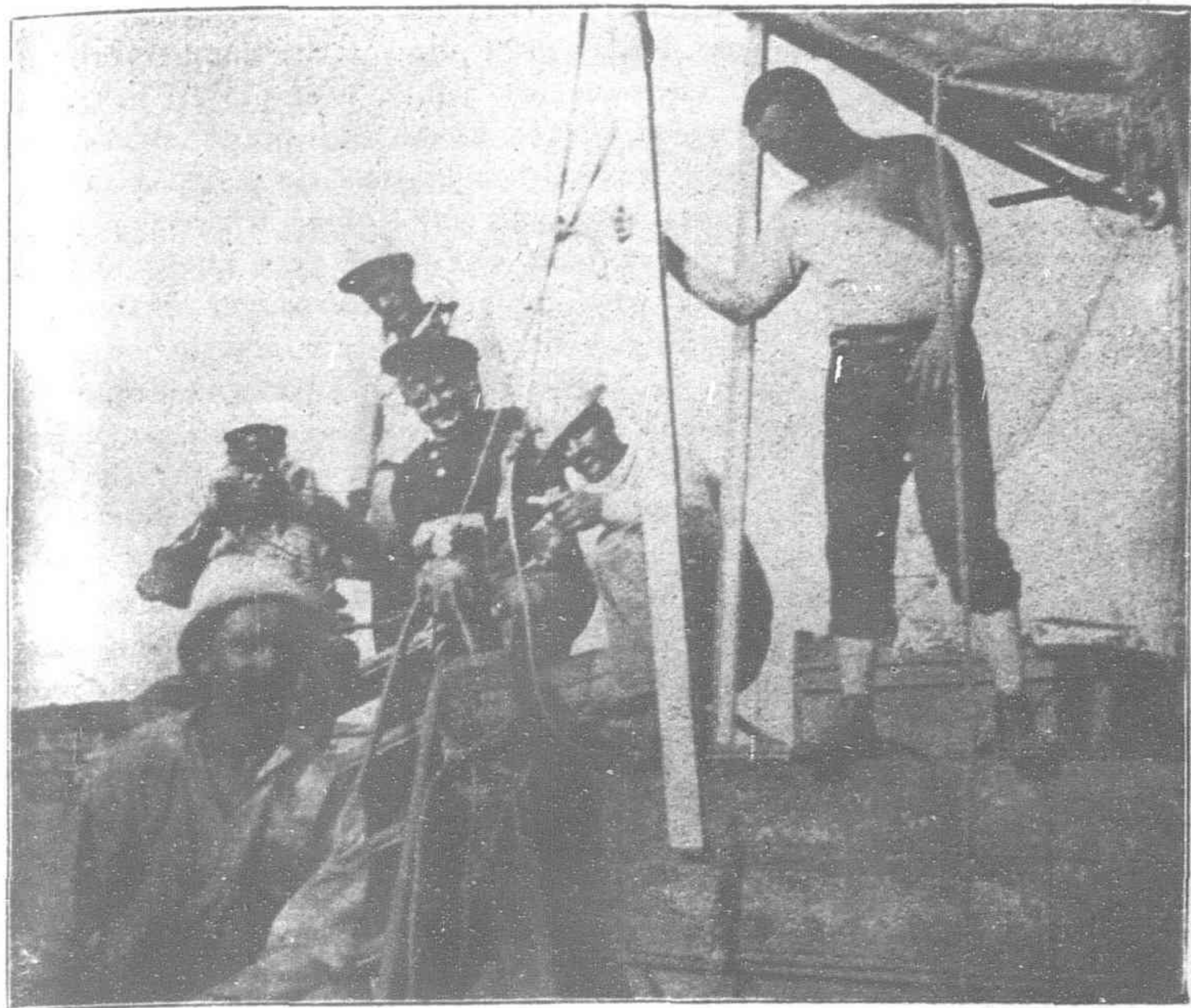
The Guards stood erect, saluted, and the gates were unbolted and swung open about a foot, or enough for them to "squeeze" in "Pase, Oficiales del Maine", and the crowd outside echoed "Oficiales del Maine".

The two companions sprang through the old Baggage Inspection shed, and out on the wharf, and the drama in the bay was unfolded to their gaze. The Maine had sunk, and the cellulose had started to burn with a dull red flame. Inside the circle of light, the boats of the Spanish cruisers and others could be seen darting here and there on their mission of rescue, but the rest of the bay was wrapped to darkness. Under the Customs shed along the wharf, it was impossible to distinguish faces, and there wasn't a boatman in sight. A few persons had entered on the wharf before the Guard was posted at the gate, and were silently watching the scene in the bay. Boats there were in plenty, tied up for the night, but no one to man them. After stealing a carriage, the temporary confiscation of a boat did not trouble the conscience of the two companions, and they made for the lightest one, which like all the harbor boats of Havana was fitted with a small mast and sail. As they were undoing the painter from the mooring ring on the string piece, a form came running through the darkness, loudly commanding everybody to leave the wharf. Behind him followed a file of police. "Back out of here everybody, no one must leave the wharf tonight," and the police roughly pushed the onlookers towards the gate. In an instant Face and Boru recognized their old enemy Col. Paglieri, the Chief of Police. Waving his cane and swearing roundly at the two forms, he ordered them back. It was a chance in a thousand, but the two took it. They were used to lies by then, and remembering how the Guards had saluted, and let them pass, they repeated the lie, and as "Old Pag" ordered his men to take them away, they again said, "But we are two officers of the Maine, and must reach the wreck."

Instantly the demeanor of the old soldier changed. The stern and relentless police official before whom all Havana stood in dread, dropped his official mask, and the traditional Spanish cavalier and gentleman stood revealed. His hat came off, and with a profound bow he said, "A thousand pardons, gentlemen, but to prevent confusion and facilitate the work of rescue, orders have just been issued that no boat shall leave the water front tonight. My own boat is here, and I am just leaving for the scene of the disaster. I beg you to accompany me".

It was no time to consider the question of ethics. By fair means or foul, it was the duty of the two companions to reach the wreck, and into the boat they jumped along with the official. Two brawny Spaniards took up the oars and the boat sped out into the darkness of the bay. Face took up his position in the bow, standing on the little forward deck, with one hand steadying himself by the fore stay, and with the other shading his eyes and peering into the darkness, on the lookout for some poor fellow who might need help. In the stern sheets, under the awning lattice, sat Boru and "Pag" with the latter holding the tiller ropes. There was no conversation. An occasional, Ave maria! from the Colonel, were the only words to break the silence. The boat sped onwards under the strong strokes of the oarsmen.

The fire on the Maine burned up brighter and fiercer as it caught the dry cellulose in the twisted upper works, and then reached the rapid fire ammunition which had been

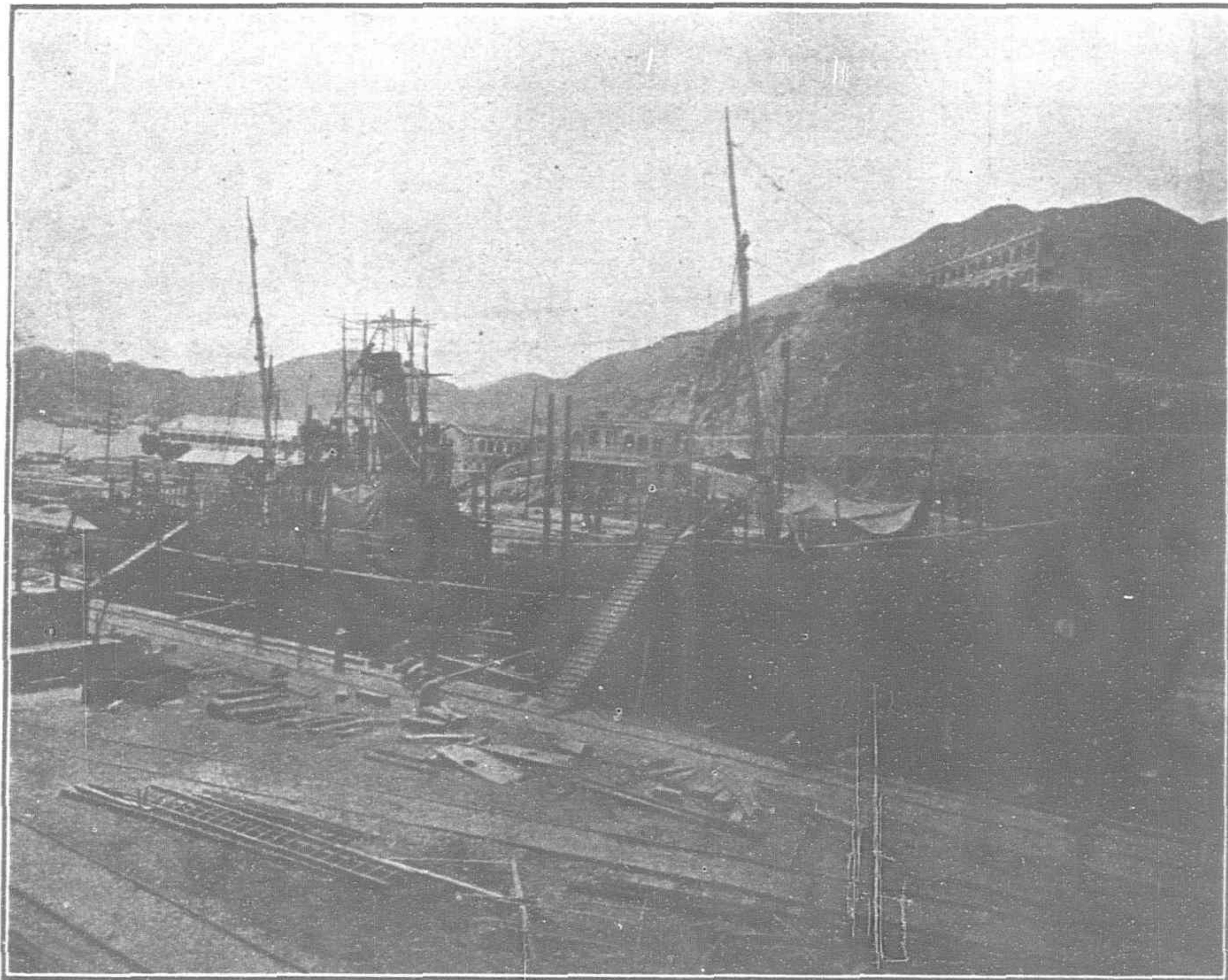


GROUPS OF THE AMERICAN DIVERS ON WHOSE DISCOVERIES THE FINDING OF THE COURT OF INQUIRY WAS BASED.

The Lengthening of a Steel Steamer at the Taikoo Docks

To the Taikoo Dockyard & Engineering Company of Hongkong Limited falls the credit of being the first firm to execute

the lengthening of a steel steamer in Hongkong, which work was contracted for and executed on the S. S. "Union," owned by



THE S. S. UNION ON THE SLIP CUT AND DRAWN APART

stored on deck ready for emergencies. Explosion followed explosion, and thousands of fragments of the bursting shells shrieked through the air, and ricocheted over the water. For a few minutes the bombardment was terrific. Countless jets of water were thrown up on the bosom of the bay as the missiles plowed the surface. The situation was one of great peril. And as the little boat sped on under the hail of fire, the Spanish cruisers and merchant steamers could be seen slipping their moorings and moving out of the zone of danger. Face and Boru had passed through many artillery fights in the insurrection, but always felt that when a Spaniard took real aim at any object, the object was safe. And so they were callous. But the few minutes in Havana Bay, while the Maine was delivering her farewell salute to the world, surpassed anything in their previous experience. The spray from the fragments of shell hitting the water fell into the little boat, a hurtling missile splintered the mast and another tore a hole in the gunwale.

"Jesus Maria! Virgen Santísima!" cried the boatmen, and dropped under the thwarts palsied with fear. Here was a predicament. The little boat was now within a few hundred yards of the Maine, and entering the circle of light. Ahead Face discerned some one in the water, and was crying out "Pull! Pull!" And then the stern, silent old Spaniard awoke to action. "Get up! pull—you!" and with his heavy cane he beat the frightened oarsmen to their places. Boru assisted with a rope's end, and Face stood in the bow throwing sulphurous epithets on the entire breed of Havana boatmen. And so, in the midst of the incident, with a rain of missiles shrieking overhead, the boat came within the circle of light. "Pag" had finished persuading the boatmen that they had better stand the uncertainty of being hit by the shells than the certainty of being beaten to death if they didn't pull. And the boat sped onwards once more. Face and Boru had now forgotten all about the incident on the wharf, and were intent on reaching the wreck. Suddenly, however, the old Colonel gave the abrupt order for the

starboard oar to back water, and, jamming the tiller over, the little boat swung around and turned again towards the water front. Face yelled. "What the devil are you doing, there is a man there in the water", and Boru made to take the tiller ropes away from the Colonel. But the old soldier held up his hand and very quietly but firmly said, "We will return to the Machina. You have imposed on me, and not acted the part of gentlemen." "What's the matter with you," said Face, "head the boat around, quick." "Gentlemen, you assured me you were two officers of the Maine, but you," pointing his finger at Face, "are Mr. correspondent of the New York," and turning to Boru, "you are Mr. of the New York You have caused me trouble enough these last two years, and now you go back."

Boru knew the old Colonel meant what he said, and realized the only chance to avoid losing the night's work was to promptly apologize. But to do it properly and safely he had to lie. And in his finest Castilian, he said, "Why, if this isn't my old friend Colonel Paglieri! I didn't recognize you in the darkness. I thought it was another official, for I would never have imposed on an officer of your rank, and one whom I esteem so highly as an old friend. Colonel, I sincerely apologize to you on behalf of my companion and myself."

And once more the finer instincts of the old warrior revealed the true gentleman. Time and again had the two correspondents eluded his vigilance, and laughed at the traps he set for them, and brought down on his head the sharp reprimand of his commanding general, and here on this night they had again outwitted their old foe. But he generously accepted the apology so spontaneously tendered, and turned the bow again towards the wreck. And so Face, Boru, and the Chief of Police arrived at the Maine, just twenty minutes after the explosion, the first boat from the Havana shore. It was all over. The cutters of the Alfonso XII, the Spanish Mail, and the City of Washington had

the Compañía General de Tabacos de Filipinas, Manila, P. I., during the summer of 1910.

The steamer, which is employed in the interisland trade of the Philippine Islands, was built in Leith, Scotland, in 1891, was of 615 tons gross, and 177'0" long between perpendiculars, and was of the type known as flush deck with top gallant forecastle. Before proceeding with the lengthening, the whole of the deck houses and upperworks were removed, as the scheme of accommodation, which was entirely new, would not work in with the original. Immediately thereafter the vessel was placed on the patent slipway and severed just forward of the boiler space, and when all was ready the upper part of the slipway carriage, which had been disconnected for the purpose, was hauled up with the forward end of the vessel resting on same, until the desired amount of new length was reached, the time occupied in this drawing apart being only three minutes.

The new part was then built in, great care being taken to maintain the fair alignment of form; and in addition to the work of lengthening, a partial double bottom for water ballast, a new watertight bulkhead, and a complete shelter deck joining up with the forecastle, were constructed. At the same time the whole of the hull was carefully surveyed and brought up to the requirements of Lloyd's so as to maintain the full class with that Society.

The accommodation for passengers, which was fitted up in the new shelter deck space, consists of 12 large staterooms luxuriously fitted up and upholstered, the floors of same, as also the entrances and alleyways, being of inlaid woods of handsome design. All the staterooms have electric light and fans, fold up lavatories, etc., and convenient to the staterooms modern bathrooms and lavatories are situated. The officers' accommodation and crew spaces are also contained in the shelter deck, and the remainder of the space will be utilized for the carriage of troops or for light cargo. On the shelter deck forward is a large steel house, which contains the dining saloon, owner's cabin and bathroom, stateroom entrance and pantry. The dining cabin is handsomely panelled in polished hardwood and is well lit with large sliding windows; seating accommodation for 32 people is arranged for and numerous electric fans, electric lights, bells, etc., all contribute to the comfort of passengers. This

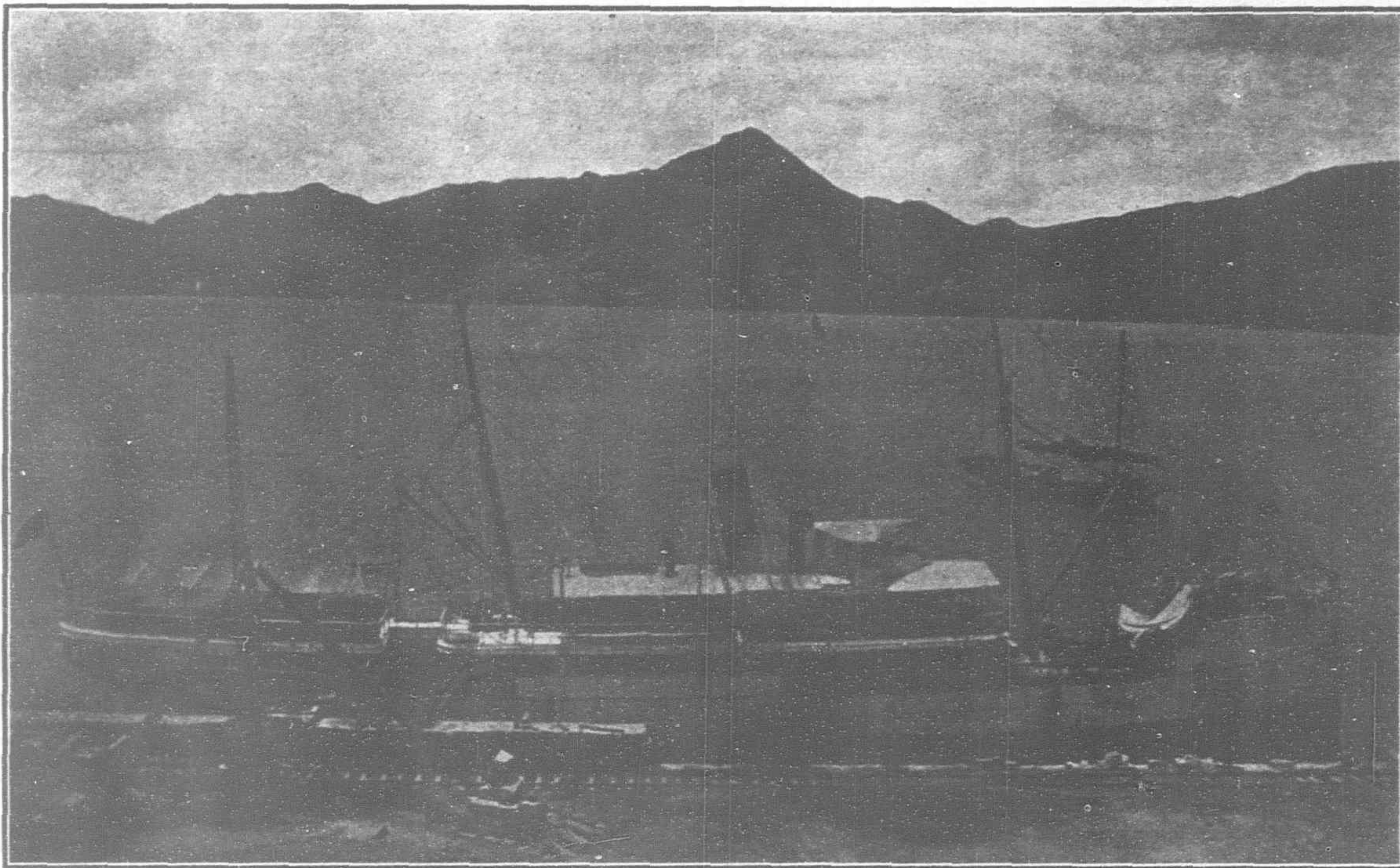
gathered up the survivors. Charley Thrall, of the Electric Light Co., and Von Vechten, of the Standard Oil, had come out from Regla in their launches, and done noble work. As the three companions came alongside, Captain Sigsbee was entering the boat to take him with other survivors to the City of Washington. The full significance and awful horror of the scene overwhelmed the correspondents, and the old Spaniard. Instinctively they uncovered in the presence of the great death. Face and Boru choked down a sob, and the grim Colonel muttered a prayer for the souls of those imprisoned in the mighty casket. Sigsbee beckoned to Boru to follow him to the City of Washington, and on the landing stage of the gangway, Col. Paglieri, in the name of the Spanish Government, offered his sympathy and assistance to the American Captain. The rest is history. Captain Sigsbee not daring to trust any of his own men ashore that night confided to Boru his official dispatches to place on the wire, and Face was with him at the cable office when the line was opened for Boru by order of the Captain General.

apartment, as also the owner's cabin, is luxuriously upholstered and has an inlaid wood floor.

Over the dining saloon is a spacious promenade deck for passengers, and on this deck there is also the navigating officer's cabin, chart house, and steering gear.

purposes and the head is located on the Tsin-yu-tan about 15 miles distant from the city. This outlet is surrounded by rice fields and the clay bottom of the Tsin-yu-tan is covered with a green turf, the result of atmospheric conditions. It is at the point where the outlet from the lake reaches the

The high tension line from the power house to the city will be fitted on timber masts and connect with the transformer house at the Great West Gate of Yunnanfu where the current will be reduced to 3,000 volts. Two switch boxes will be installed here to serve the main-ring line in the inner city.



THE S.S. UNION AS SHE ARRIVED ALONGSIDE THE DOCKYARD

The vessel as completed presents a very fine appearance, having one pole mast forward with signal yard, derrick posts and winches for the quick working of cargo at all the hatches, steel lifeboats, awnings all fore and aft, and generally is equal to any first class modern steamer suited in every respect for a tropical climate.

As lengthened the vessel is now 204'6" between perpendiculars and the gross tonnage has been increased by 396 tons.

On a trial which was made on the measured five miles at Hongkong, the speed attained was over 11 knots, which, according to the data of the original vessel, is about the same as she did prior to being altered, thereby showing that the lengthening of the vessel has not in any way reduced her speed.

THE YUNNANFU ELECTRICITY WORKS.

Yunnanfu, the capital of the province of Yunnan, has a population of 60,000 and is situated in the table lands region to the north-east of that province. Its walls enclose an area rectangular in form running 1.5 miles N. S. and one mile E. W. There is little industrial activity, commerce being its main support. The installation of an electric light plant now under way, however, is an indication of the progressive character of the inhabitants. This plant originally proposed for the lighting of the numerous yamen, schools, police stations and main streets, will no doubt be appreciated by the inhabitants as they become familiar with this kind of lighting.

Water power will be used for generating

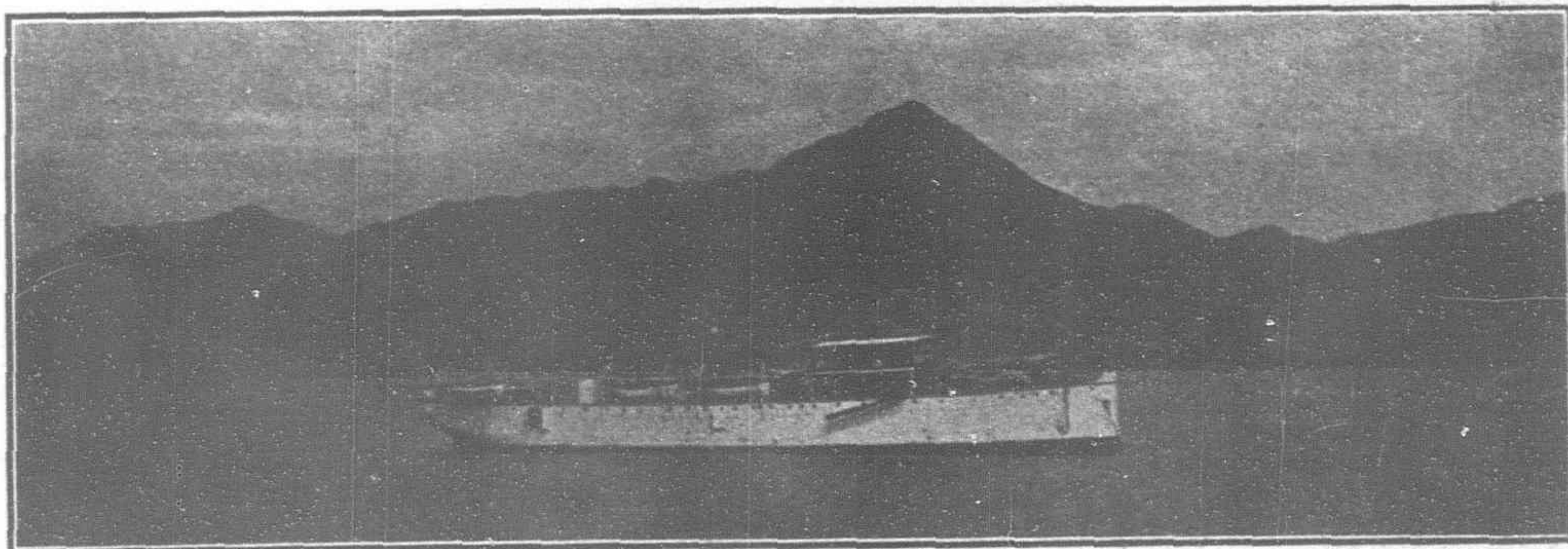
hill Tsin-yu-tan that the channel to the power station will be cut through the rocky sides of the mountain. This channel will be lined with quarry stone and water cement mortar, the materials being available in the vicinity and broken stones easily secured from the blastings. The power house will be located at a sharp angle of the hillside on the right bank of the outgate.

The power plant will be equipped with two water-wheel turbines developing 300 h. p. each at a speed of 375 r. p. m. supplied by the wellknown firm of J. M. Voith, Herdenheim on the Brenz, Germany. They will have direct coupling with two three-phase current generators for 275 K. V. A. and a circuit of 10,000 volts; two exciting machines for direct coupling to the generators, with all the necessary measuring and controlling instruments will also be installed.

Mast transformers will be fitted to timber poles and a larger transformer will be erected near the Viceroy Yamen. The whole line will be provided with safety net-work.

The three-phase current system with effected zero position will be used on the low tension line with a circuit of 110 Volts between zero and phase-line. The low-tension side of the transformers are to be protected on the timber poles by means of triple-pole fuses, which are watertight and fitted into iron-boxes. High and low-tension lines will be fitted on wooden poles of 11 meters 8 meters from the ground, so that crossings can be made on the existing protecting network of high-tension line.

All branch lines to the houses, etc., will be protected by means of overhead line fuses. The contractors for the work are the well known firm of Carlowitz & Co.



THE S.S. UNION LENGTHENED AND READY TO PROCEED TO SEA

THE WEST SIBERIAN RAILWAY

The difference of opinion over the route of the new railway in West Siberia has been adjusted. The commission consisting of the representatives of six ministries which met last autumn to discuss the matter has come to a decision. The project is now before the Imperial Council and the Council of Ministers, but it is not believed that these two bodies will raise any further objection.

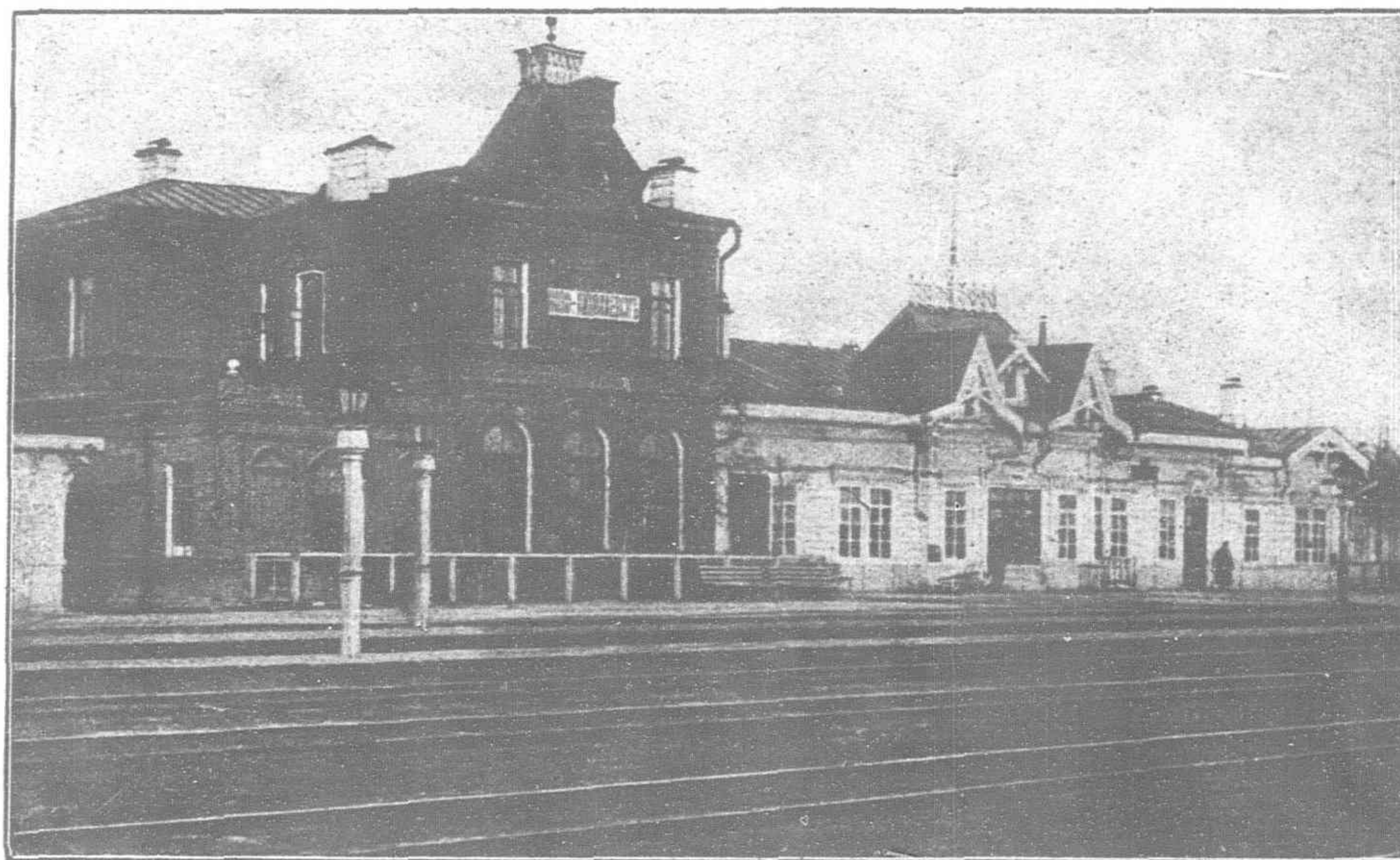
The new West Siberian main line begins

given for the railway are sufficiently convincing to exclude Governmental opposition. The principal arguments presented in support of the construction follow:

1. The line is of great strategic importance.
2. It is absolutely necessary in the interest of the colonization of Siberia; for it runs through country that is very fertile and well suited for immigrants, thus aiding the set-

many years, but have never been properly worked, in spite of the richness of the ores. Freight and other expenses have swallowed up the profits. The new line will transform all this like an enchanter's wand.

The new line will be more than 2,200 versts (the verst is nearly the same as the kilometer and equals two-thirds of a mile); the expenses are estimated at 186 million roubles, of which 170 millions will be the



THE STATION OF THE TRANS-SIBERIA RAILWAY AT NOVO NICHOLAIIVSK

at the town of Uralsk, proceeds via Orenburg and Akmolinsk to Semipalatinsk in a due east direction; thence north-east to Barnaul, from which a short branch will run to the prosperous town of Biisk. From Barnaul it proceeds due north to the Great Siberian Railway joining it at Ob or Novo-Nikolaievsk. The town is already regarded as the center of the Siberian grain trade and the opening of the new line will give an impetus to its still more rapid development.

It is believed construction will begin immediately, for the reasons the Commission has

tlement of the agrarian question, not only in Siberia but also in Russia.

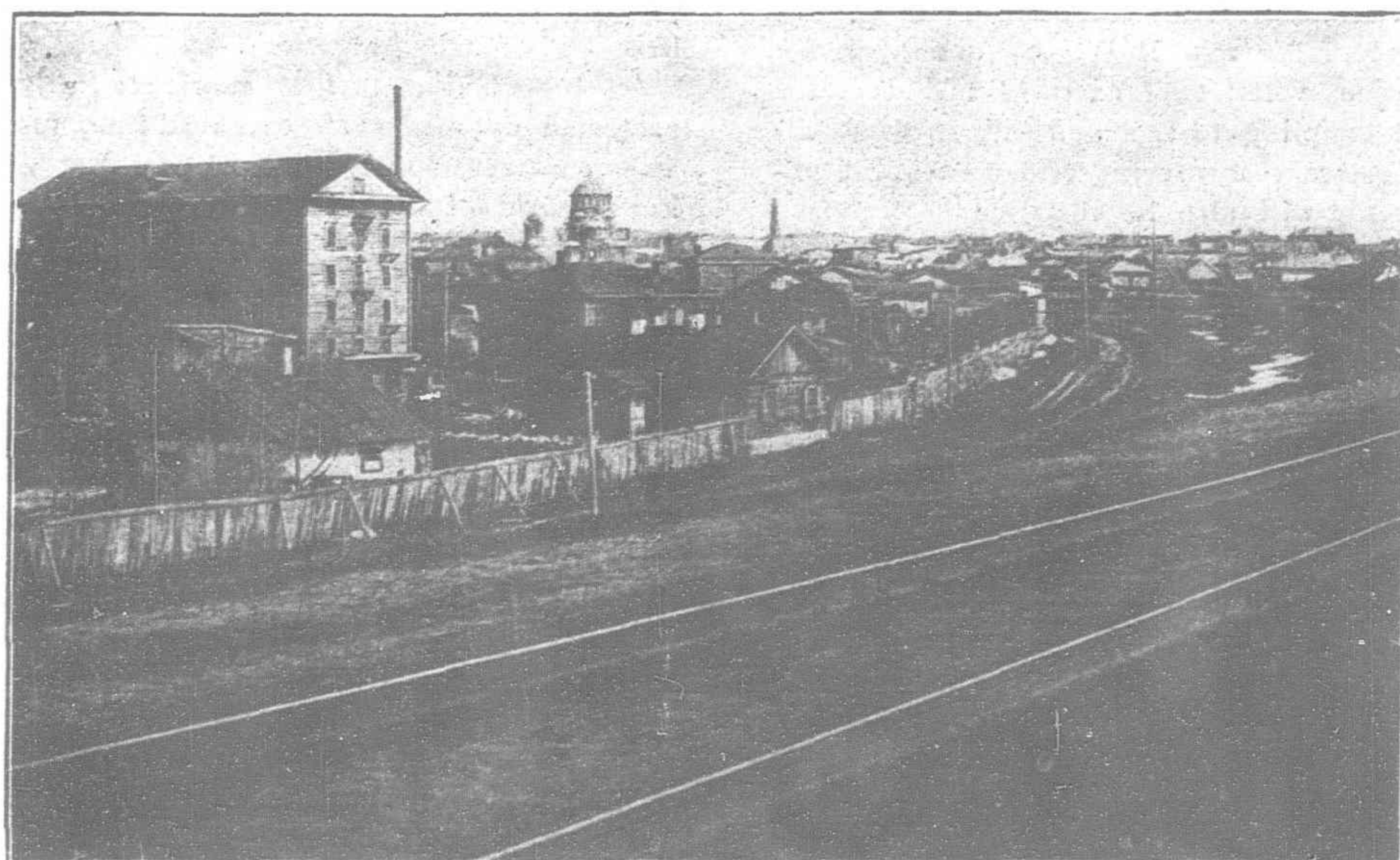
3. It traverses a region of four million square versts that is now sparsely inhabited but is capable of producing largely both grain and other natural products.

4. Above all, it opens the enormous natural wealth of the Altai mountain region which, according to the latest researches, will be worth many millions to Siberia. Besides the mountain forests, that are still vaguely known, mines of iron, copper, silver, lead and zinc have been in operation for

bond-issue.

If the construction is begun in the spring of 1911 or even in the previous winter it is to be hoped that it will be open to traffic in five years at latest, as it can be begun at both ends at once.

The same Commission has decided on a line in Trans-Caucasia, from Aryss, a station on the Orenburg-Tashkend Line, via Pischpek to Verny. This line will be specially serviceable to the cotton and silk industry in Ferghana Province and will fill wants that should have been attended to decades ago.



NOVO NICHOLAIIVSK: THE GREAT GRAIN AND FLOUR CITY OF CENTRAL SIBERIA

WATER-TUBE STEAM BOILERS

Of recent years the water-tube boiler has come to the front so rapidly that no doubt a few particulars of the leading type as made by Messrs. Babcock & Wilcox Ltd. will be of interest to our readers.

The standard land type of boiler is shown in fig. 1, the sectional construction and staggering of the tubes, points which are essential to ensure high working efficiency and provide for unequal expansion, should be noted.

Of late years, owing to the demand for higher boiler efficiencies and smokeless combustion, this firm have made a specialty of superheaters and mechanical stokers; as we shall probably return to these subjects at a later date, we refrain now from going fully into the question. But fig. 2 will give our readers a very good idea of the arrangement of one of these boilers fitted with an integral superheater and mechanical chain grate stoker.

Fig. 3 shows a boiler of the marine type such as supplied regularly to the leading Navies and the Mercantile Marine, whilst fig. 4 illustrates the "White Forster" boiler, of which Messrs. Babcock & Wilcox Ltd. are the sole licensees and makers, for tor-

pedo boats, torpedo boat destroyers, scouts and vessels of light draught.

It is also interesting to note that a specialty is made of boilers for transport up country and to places difficult of access; in such cases a weight limit of 250 lbs. can be obtained.

The advantages claimed for these boilers are: Safety from Disastrous Explosion, High Efficiency, Low Cost of Upkeep, and Steaming Capabilities.

SAFETY.—In these days one of the first considerations of a steam user is

heating surfaces. The design is also such that the volumes of water in contact with the heat are small, and receive the flames at right angles to their course. The tubes are staggered, the gases are thoroughly broken up as they rise, and passing into the combustion chamber under the drum, they expand and combine again before passing a second and third time through the tubes. Complete combustion, rapid steaming, and consequent economy are thus facilitated. It may be added that in thirty tests, extending over twelve years, under a great variety of conditions and cir-

the Babcock & Wilcox boilers were superior both in efficiency and steaming capabilities.

The results of the tests were as follows;

	One-fifth Power		Full Power	
	Cylindrical.	Babcock & Wilcox	Cylindrical.	Babcock & Wilcox
Indicated Horse-Power.....	3,634	3,759	6,686	7,510
Coal per indicated horse-power.....	1.8	1.74	1.88	1.67

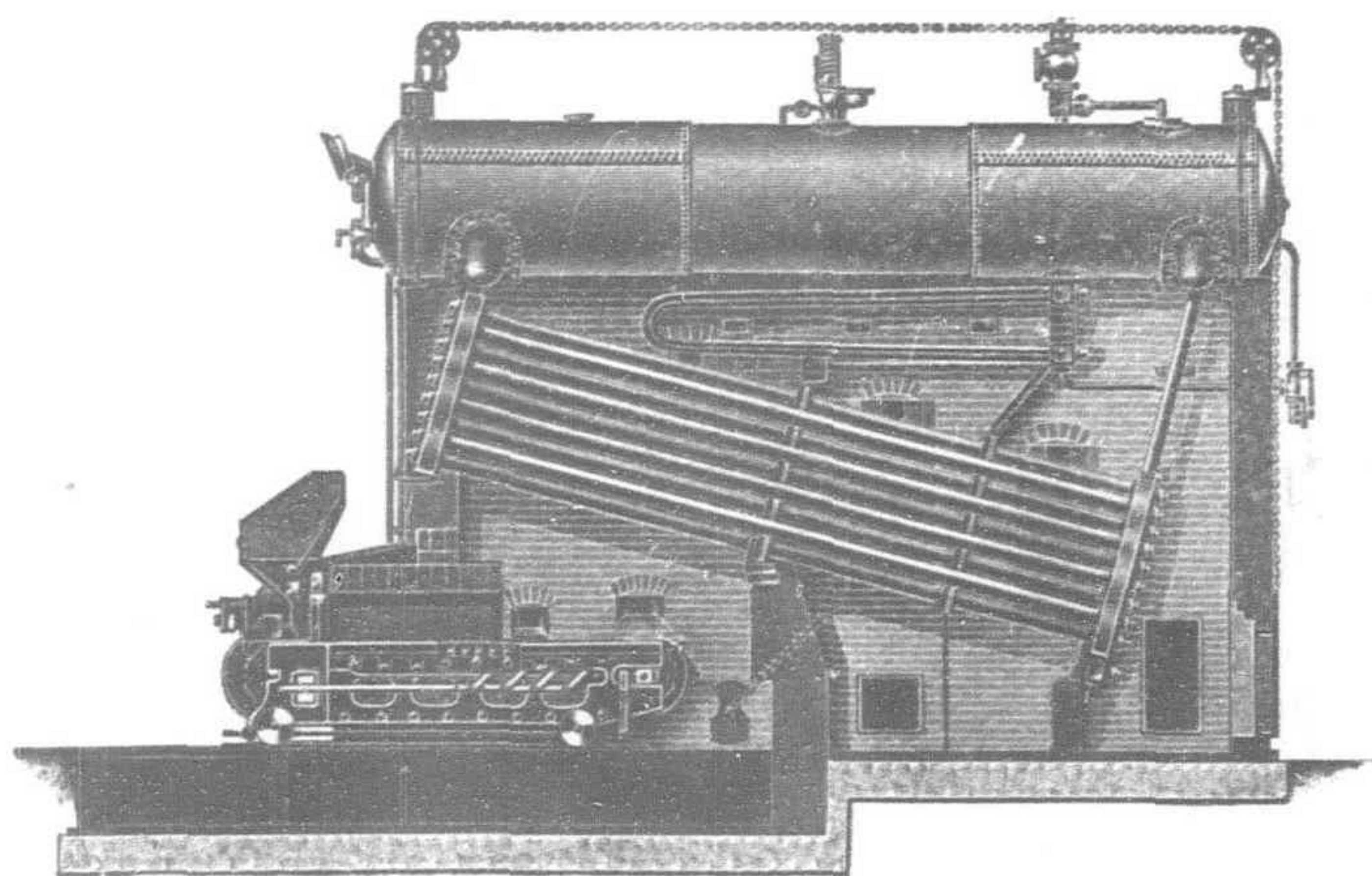


FIG. 1

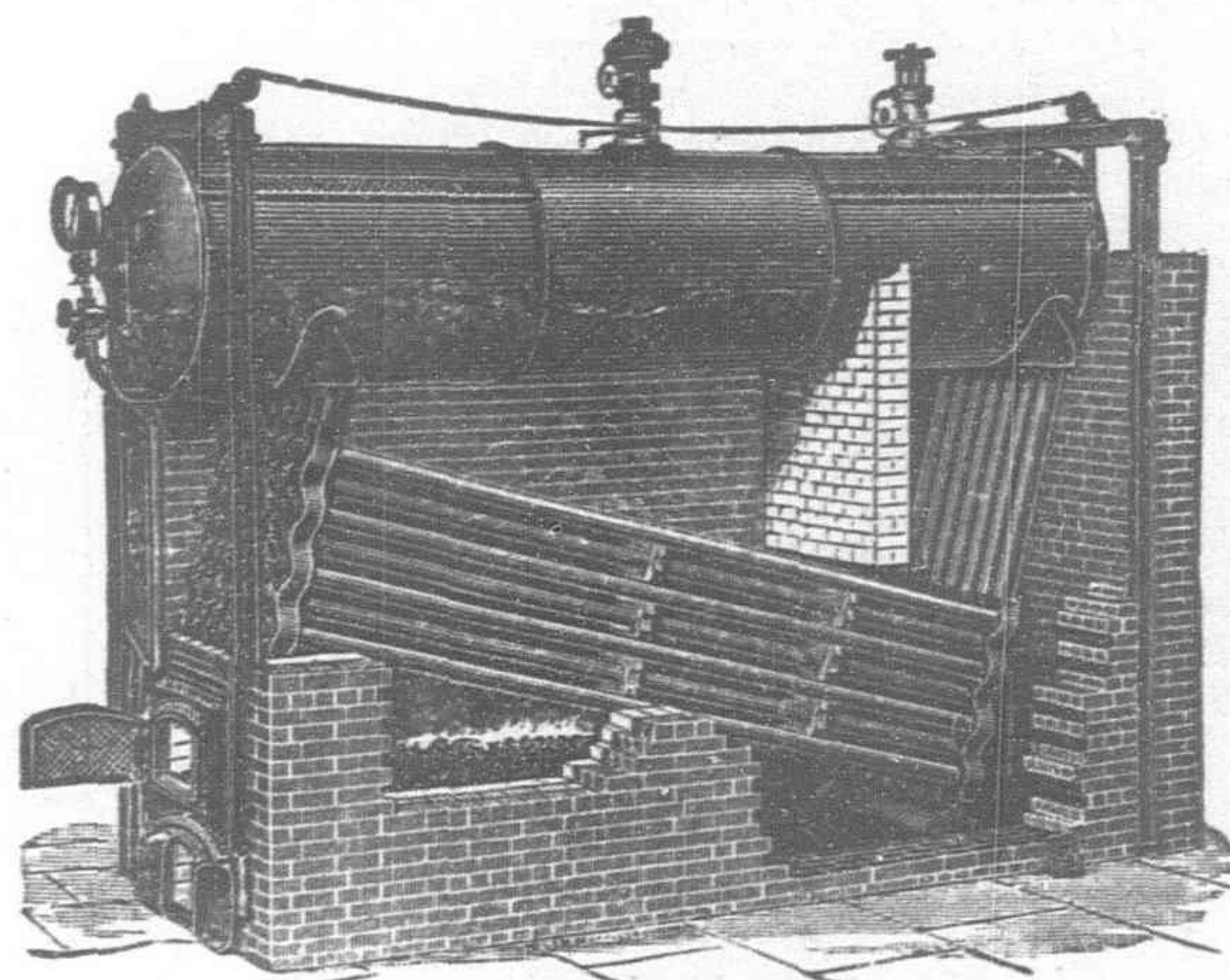


FIG. 2

the element of safety. The importance of this cannot be too greatly emphasized and attention may at once be called to the fact that it is a strong point in favor of the Babcock & Wilcox boiler. Being composed of wrought steel tubes, with a drum of comparatively small diameter, it possesses a great excess of strength over any pressure that it is desirable to use. As the rapid circulation of the water ensures equal temperature in all parts, the strains due to unequal expansion cannot occur to deteriorate its strength. The construction of the boiler, moreover, is such that, if unequal expansion does occur under extraordinary circumstances, no objectionable strain can be caused thereby, ample elasticity being provided for that purpose in the method of construction.

Amongst the numerous instances to be found in the Company's records, in which this has occurred it will not be out of place to quote one of the most remarkable of them. It shows incidentally how the Babcock & Wilcox Boiler may even be left in the most inexperienced hands without fear of serious disaster. In the case in question the boiler was installed at a county gaol and was in charge of one of the convicts, who, after starting the fire as usual in the morning, was surprised not to observe, after an hour or so of waiting, any signs of activity in the steam gauge. This fact was disclosed to some of the officials of the prison, and an investigation was instituted to ascertain the cause, disclosing a fact that at once relieved the boiler from any responsibility for the absence of steam—for there was no water in it. It also showed that the blow off cock was wide open, and had been since the night before. After the officials had opened the furnace door and seen the white hot tubes, it was thought a good idea to get some water in the boiler as quickly as possible; so that they shut the blow-off cock and turned on the city water. The result justified their expectations, steam was made very quickly; for a moment it roared through the safety valve with a fearsome sound; and that is all that happened, beyond the renewal of a few of the tubes and one steel casting.

EFFICIENCY.—The economy that results from the use of these boilers is undeniable. It is largely attained by the provision of thin

cumstances, by no less than twenty different engineers, and with only two exceptions on boilers in daily use for manufacturing purposes, with all descriptions of coal and at varying rates of combustion, covering an aggregate of nearly three months regular working and evaporating over 3,000 Tons of water, gave an average evaporation of 11.4217 lbs. of water per lb. of fuel. It is pretty safe to say that no other boiler similarly tested has ever beaten this record.

As bearing on this subject the following extract from an article written by Lieut. H. C. Dinger, U. S. N., regarding the round the world cruise of the United States Fleet in 1908, will be of interest. Two types of shell boiler and three types of water-tube boilers were in use. Lieut. Dinger states that after reducing all the figures to a common basis, the Babcock & Wilcox Boilers were by far the most economical, the figures

The best proof of the reliability of the Babcock & Wilcox Boiler lies in the fact of their very wide adoption by both large and small steam users, witness such plants as, Manchester Corporation Electricity Works who now have over 55 of these boilers, Glasgow Corporation Electricity Works 45, Underground Electric Railway of London 65, Manhattan Elevated Railway of New-York 64, Interborough Rapid Transit Co. of New-York 60, Third Avenue Railway Co. of New-York 31, City of London Lighting Co. 45, Metropolitan Electric Supply Co. of London 64, Metropolitan Railway of Paris 20, etc.

The Babcock & Wilcox Marine Boiler has been adopted and is being regularly fitted in the Navies of the British, United States of

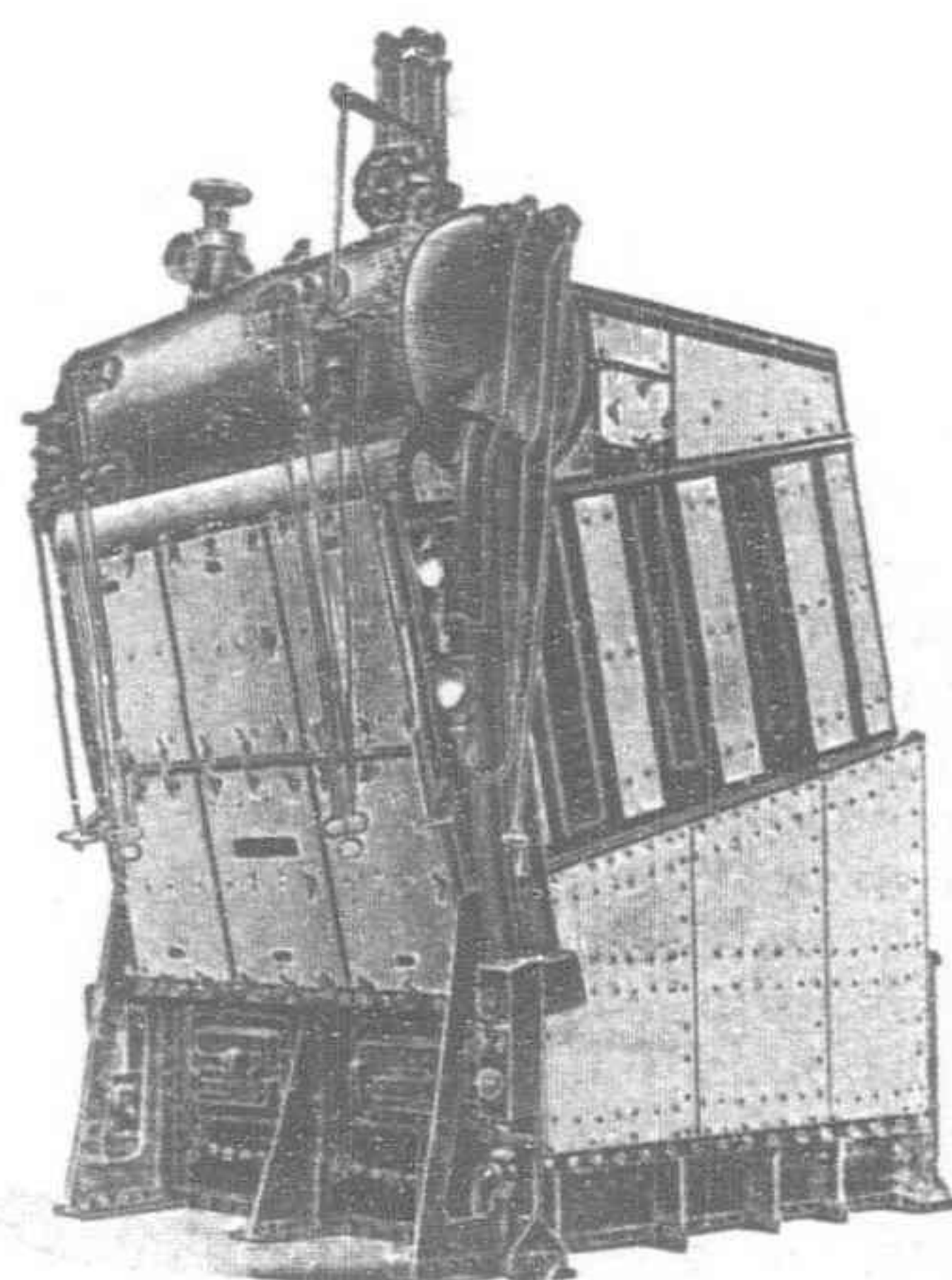


FIG. 3

showing a saving in coal consumption of from 8.9 to 16 per cent in their favor and that as regards repairs at the end of the voyage, practically none were necessary.

The British Government made extensive trials with the Battleship "King Edward VII." This vessel was fitted with Babcock & Wilcox and Cylindrical boilers and after very careful tests it was proved conclusively that

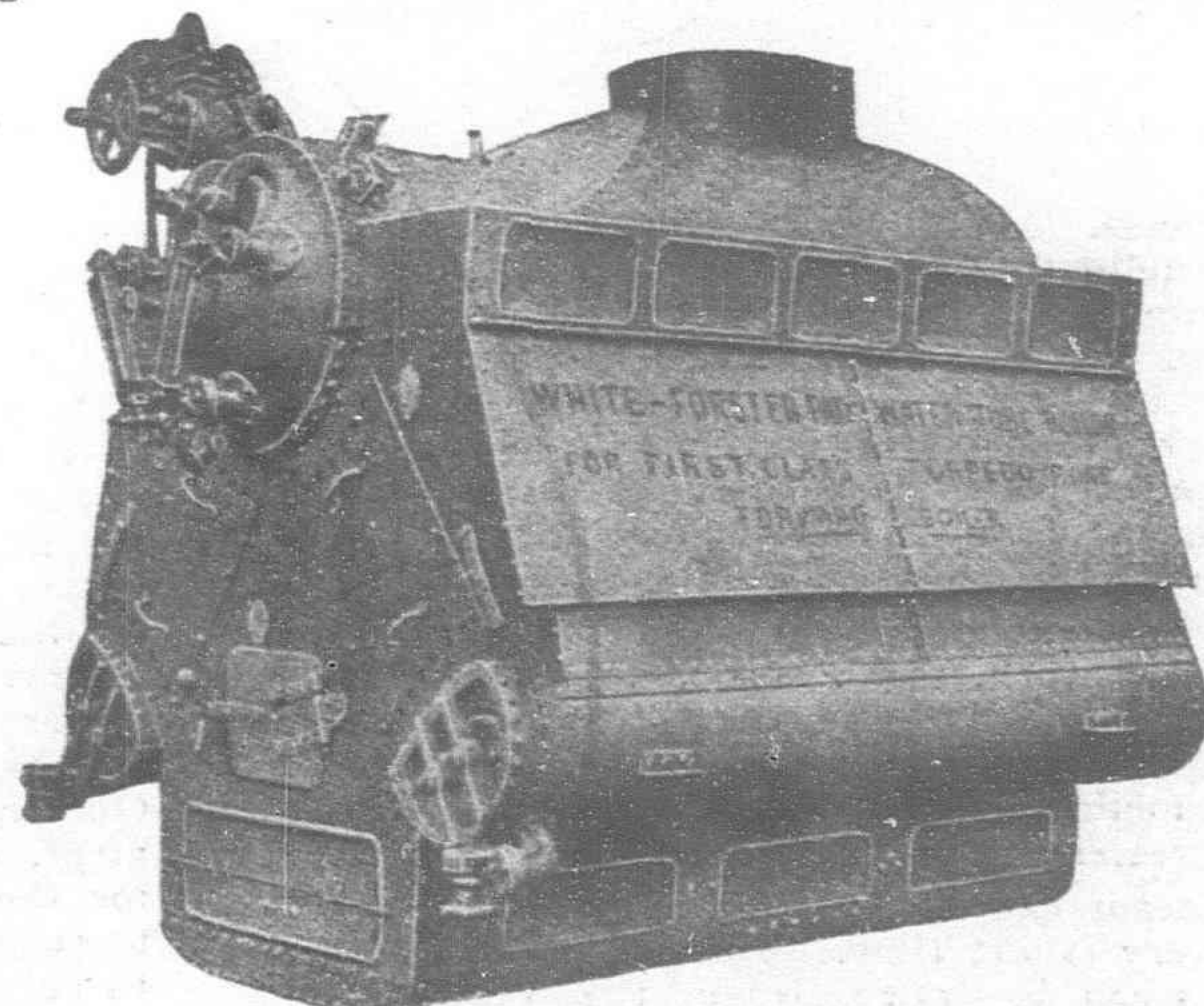


FIG. 4

America, Italian, Danish, Norwegian, Brazilian, and Argentine Governments. A large number of cargo and passenger steamers, tugs, yachts and dredgers also have been fitted with these boilers.

LOW COST OF UPKEEP.—The British Admiralty Boiler Committee, reporting on the

THE TAAL DISASTER

At two-o'clock, Monday morning, January 30, a fearful explosion occurred at the active volcano of Taal, the denotation being heard at the most extreme points of the Philippines and many leagues to sea, and when the mists cleared away from the island and lake of Taal, the surrounding country was found desolate with many hundreds of bodies of natives killed by the gases, hot mud, and falling stones, with many buried under debris and mud who will never be numbered. Never in the history of volcanic activity in the islands has there been recorded a more serious loss of life. Even at the hour of writing the extent of the fatalities is not definitely known. Conservative estimates place the number at 800, while others claim that the list of the dead will reach 1300. The Burial Corps of the U. S. Army, Military, and Constabulary have been active for over a week seeking out the dead for burial and the injured for the hospital, while every effort has been made to succor the homeless and destitute. For miles around Taal Lake, volcanic mud covers the earth, fruit trees and crops have been destroyed, and what was once a prosperous thickly populated district, is now the picture of desolation.

Volcan Island, in the center of which the volcano of Taal is located, was inhabited by 400 to 600 natives living in several small barrios. Some reports place the number at 800, but of them all there were only ten accounted for and only one able to relate his experience.

But the devastation did not stop with the island. It was carried to the opposite shores of Lake Taal. Immediately following the terrible eruption, the waters of the lake were disturbed and a great wave swept the exposed barrios on the shores of the lake and, amid the showers of hot mud and stones, carried death and destruction in its wake.

Of six barrios on one side of Volcan Island all had been entirely obliterated but one. The houses and occupants were completely buried.

The damage from the eruption and rush of waters on the lake shore is variously estimated, but as the relief parties extend their investigations the greater the evidence of damage to life and property. The barrios along the west shore of the lake and nearest the crater suffered most. Barrios were wiped out by the rush of waters and the natives living there died almost without warning. It is in this section, not yet fully explored, that the large increase of fatalities over the first reports published are being uncovered.

In one barrio alone 57 bodies were found by Captain Willis C. Metcalf, U. S. A., and as he proceeds up the west more and more bodies were found.

While the number of natives on Volcan Island is variously estimated the Bureau of

Health reported 800 vaccinated there recently. If this be true there is a probability that list of fatalities on the island exceeded the number estimated above and with the dead found on the west coast the figures up to

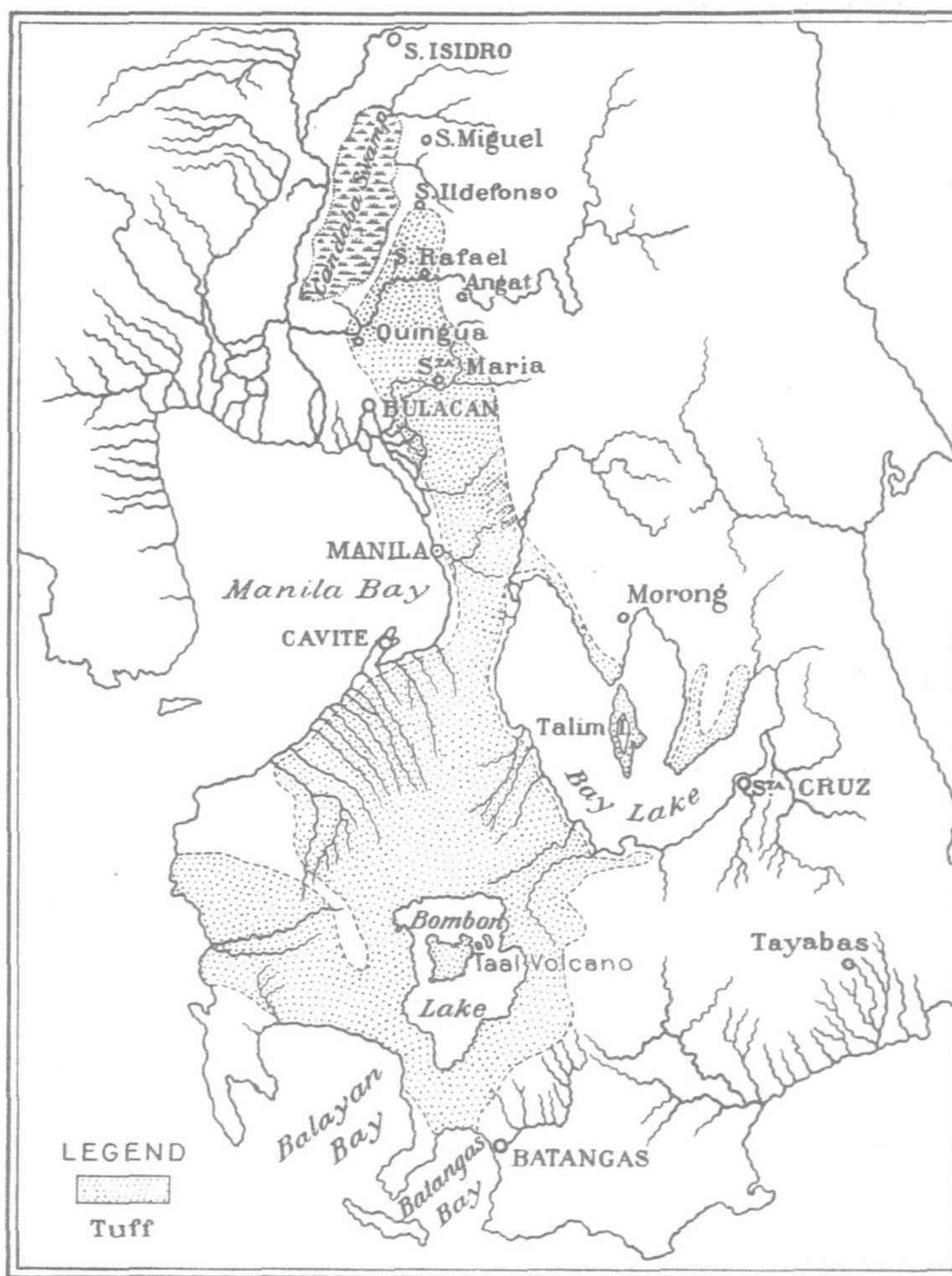


FIG. 8.—SKETCH OF THE TUFACEOUS AREA OF TAAL VOLCANO, AS MAPPED BY CENTENO

Babcock & Wilcox Boilers in the S. S. Martello trading between England and the United States say: "This vessel has run about 91,000 miles since the boilers were put in and has usually been less than a week in port at either end, the only repairs required have been those of the ordinary upkeep of any boiler such as firebars, brick-work, etc.

For shallow draught steamers for river or estuary work, tug boats, dredgers, ferryboats, etc., this boiler is especially suitable, as for a given power it is lighter and being more economical of fuel than the ordinary boiler a greater radius of action can be allowed.

Steam can be raised in these boilers in a very short time, about $\frac{3}{4}$ hour, so that fires can be drawn when the vessel is at rest, thus saving a considerable amount of fuel and labour. In this connection it is interesting to observe that the London & India Joint Dock Committee fitted these boilers in their twin-screw tug "Hotspur" over twelve years ago and as the result of experience gained have since built three more tugs having these boilers. The London & India Joint Dock Committee have now been taken over by the Port of London

Authority and they have recently ordered three more tugs of 1,000 Horse Power each to be fitted with the Babcock & Wilcox Boiler.

Over 10,000,000 Horse Power of the Babcock & Wilcox Boiler are at present in use or under construction, and at the present time the firm inform us that they are executing orders in their marine works alone for boilers for the following, three battleships of the improved Dreadnought type for the British Government, two cruisers for the British Government, one battleship for the Italian Government, two for the Argentine Government, one for the Brazilian Government, one for the United States Navy, some sixteen torpedo boats, as well as a cargo steamer, three tug boats, a ferry steamer and a floating dock, totalling about 500,000 Horse Power.

The Babcock & Wilcox Cos. have works at Renfrew in Great Britain, Oberhausen in Germany, Bayonne in the United States, and at Paris in France, and it is interesting to note employ some 8,000 men.

The interests of this large concern are represented in China by their office in Shanghai at 12 Jinkee Road.

1,000 might be considered conservative. The truth will no doubt never be known. Especially is this true of Volcan Island where the towns were buried completely many feet deep.

Taal became active several days before the terrible eruption January 30. Father Algue, Chief of the Manila Observatory, reported over 300 shocks, 54 of which were severe, previous to that time. These shocks were felt in Manila and the surrounding country but no damage resulted. Taal has always been more or less active and the natives paid little or no heed to its unusual activity. Since 1754 there has been no serious eruption. At that time damage was caused as far as Santo Tomas but the loss of life, due to a limited population, was very small. The natives in the vicinity were removed and for many years that section was deserted. The long period of quiet following this activity resulted in their return to this fertile region and probably no part of Luzon was more thickly populated when the disaster occurred.

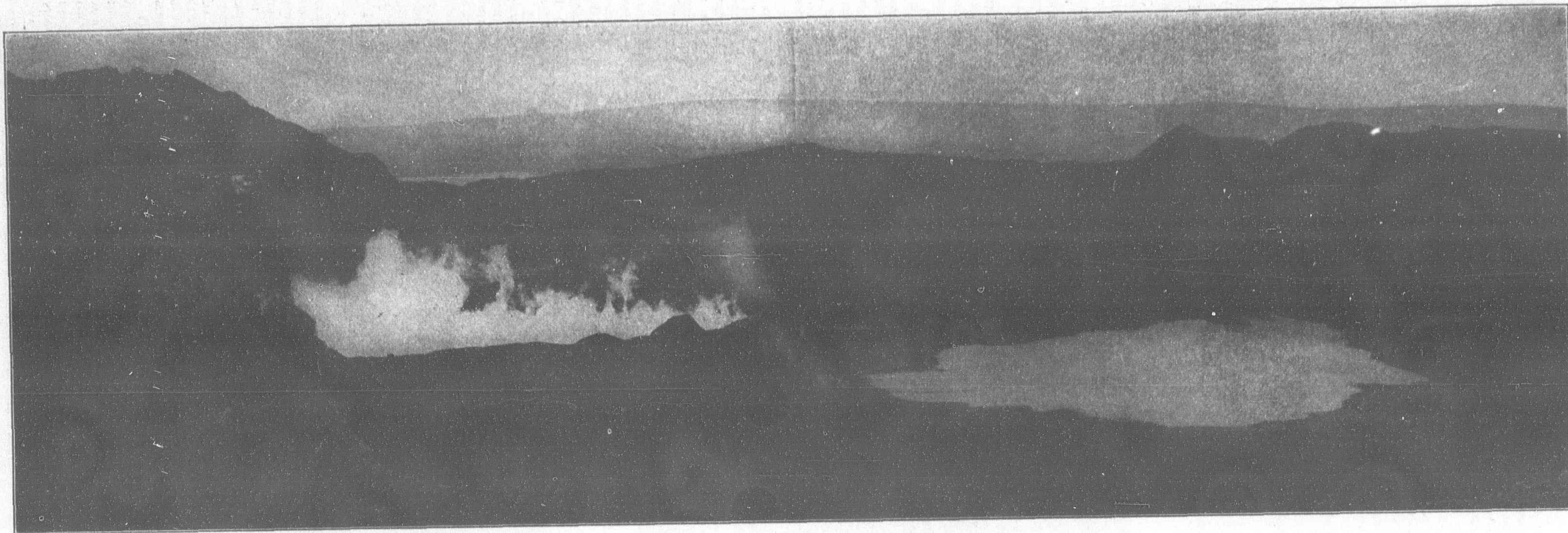


FIG. 1. CRATER OF TAAL VOLCANO SEEN FROM THE EAST

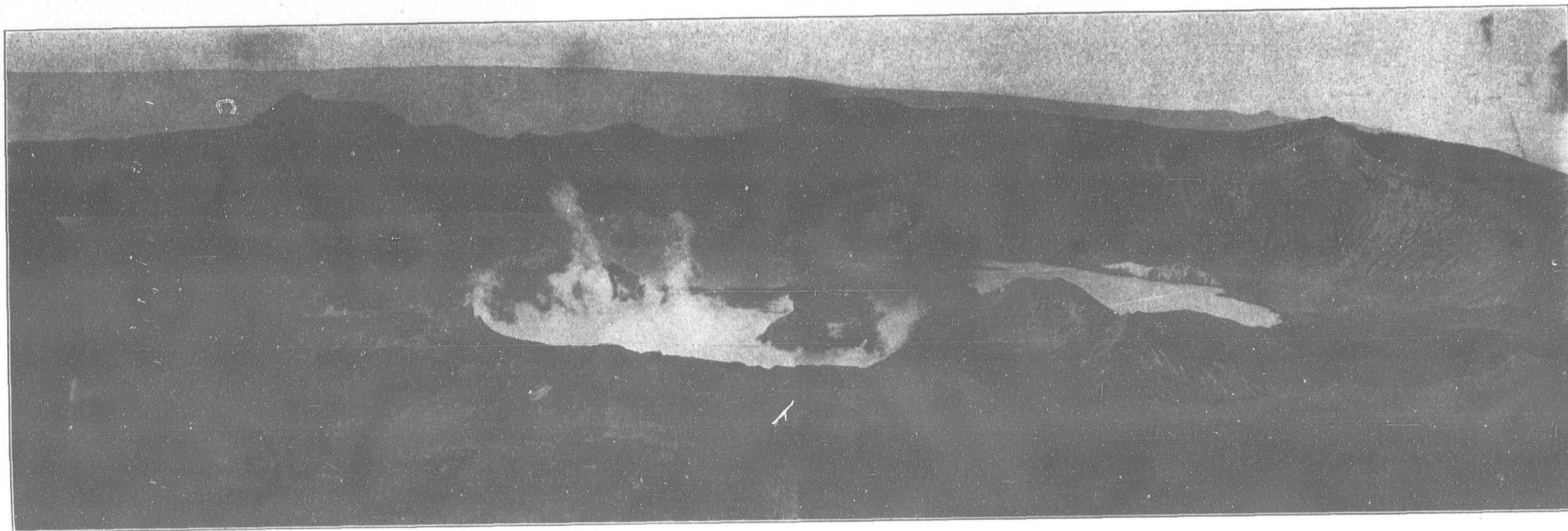


FIG. 2. CRATER OF TAAL VOLCANO SEEN FROM THE SOUTHEAST, THE 1904 CRATER IN THE LEFT FOREGROUND

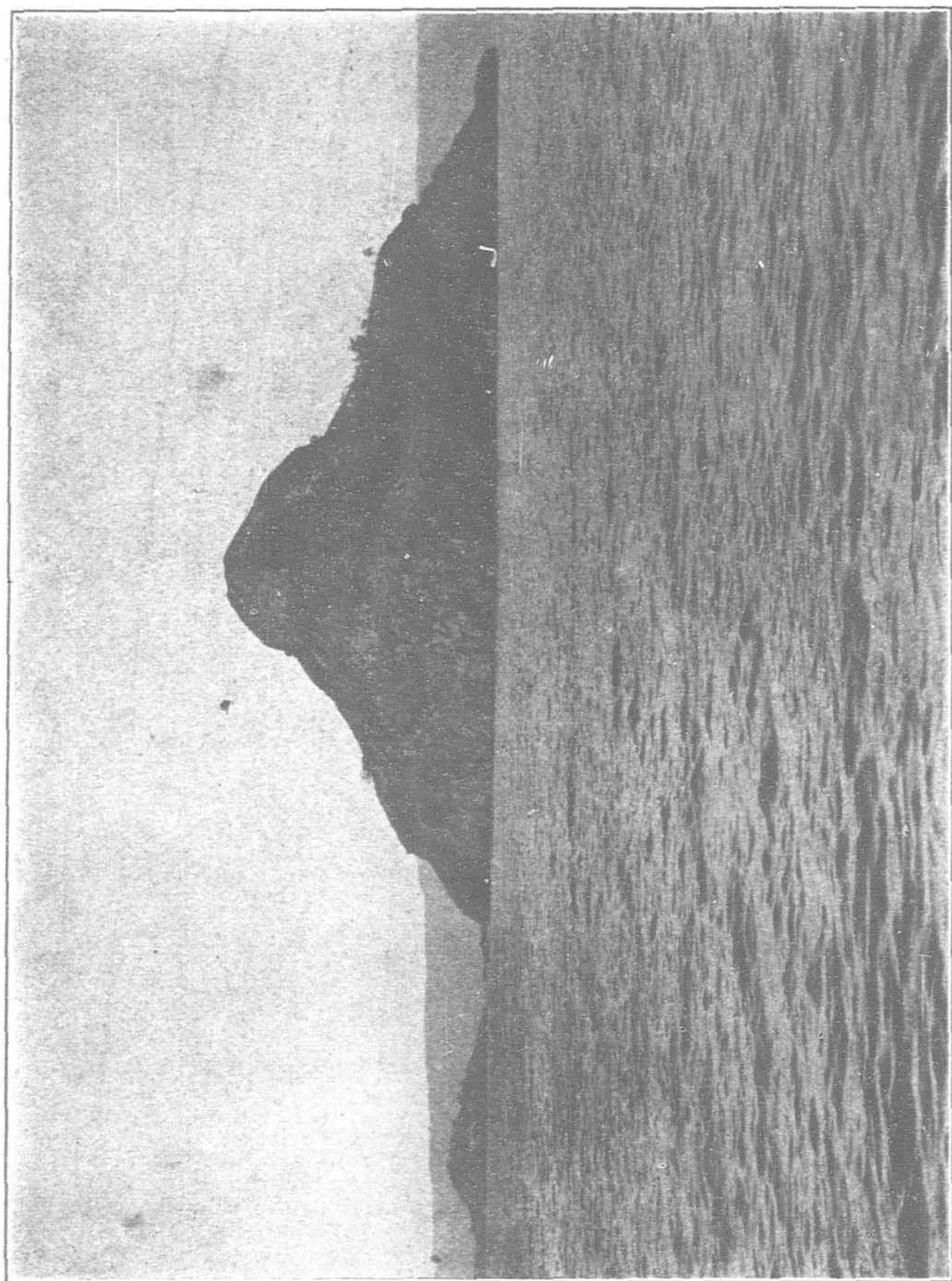


FIG. 1. NAPAYONG AND BUBUNG ISLANDS IN TAAL LAKE, AS SEEN FROM LIPA POINT.

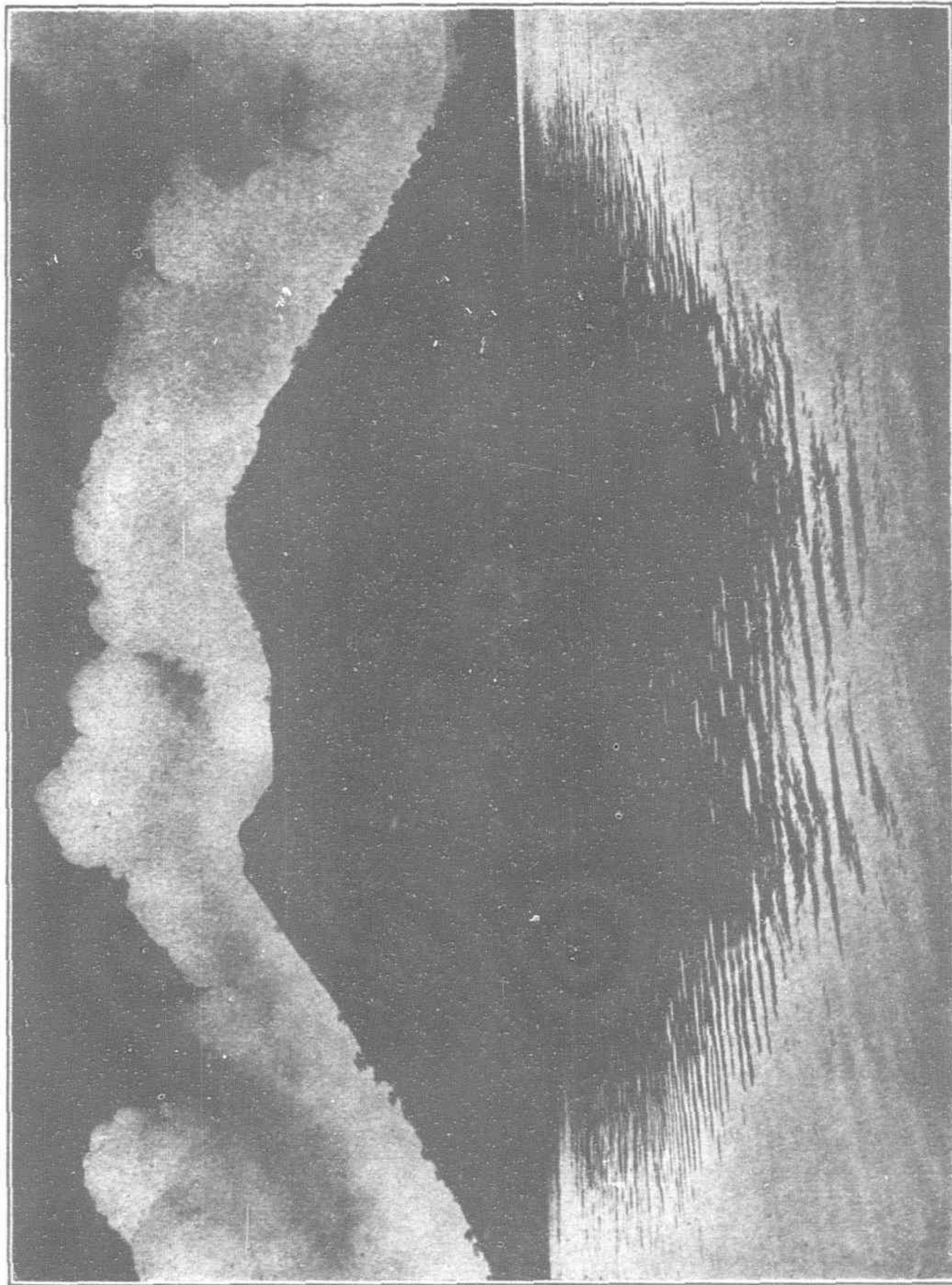


FIG. 2. THE CONE BININTIANG MALAQUI ON THE NORTHWEST POINT OF TAAL ISLAND.

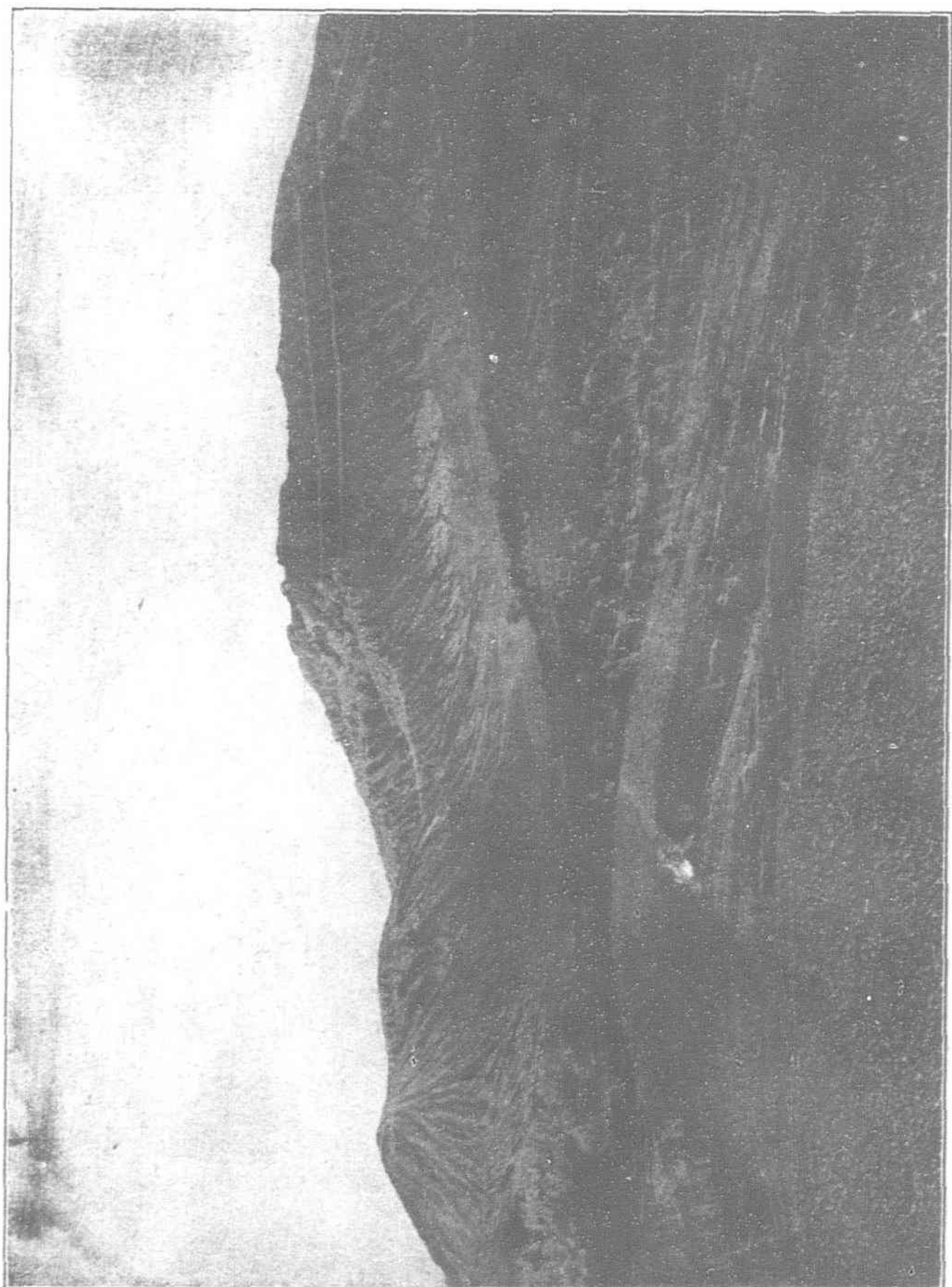


FIG. 1. EROSION ON OUTER SOUTHERN SLOPE OF THE CRATER OF TAAL.

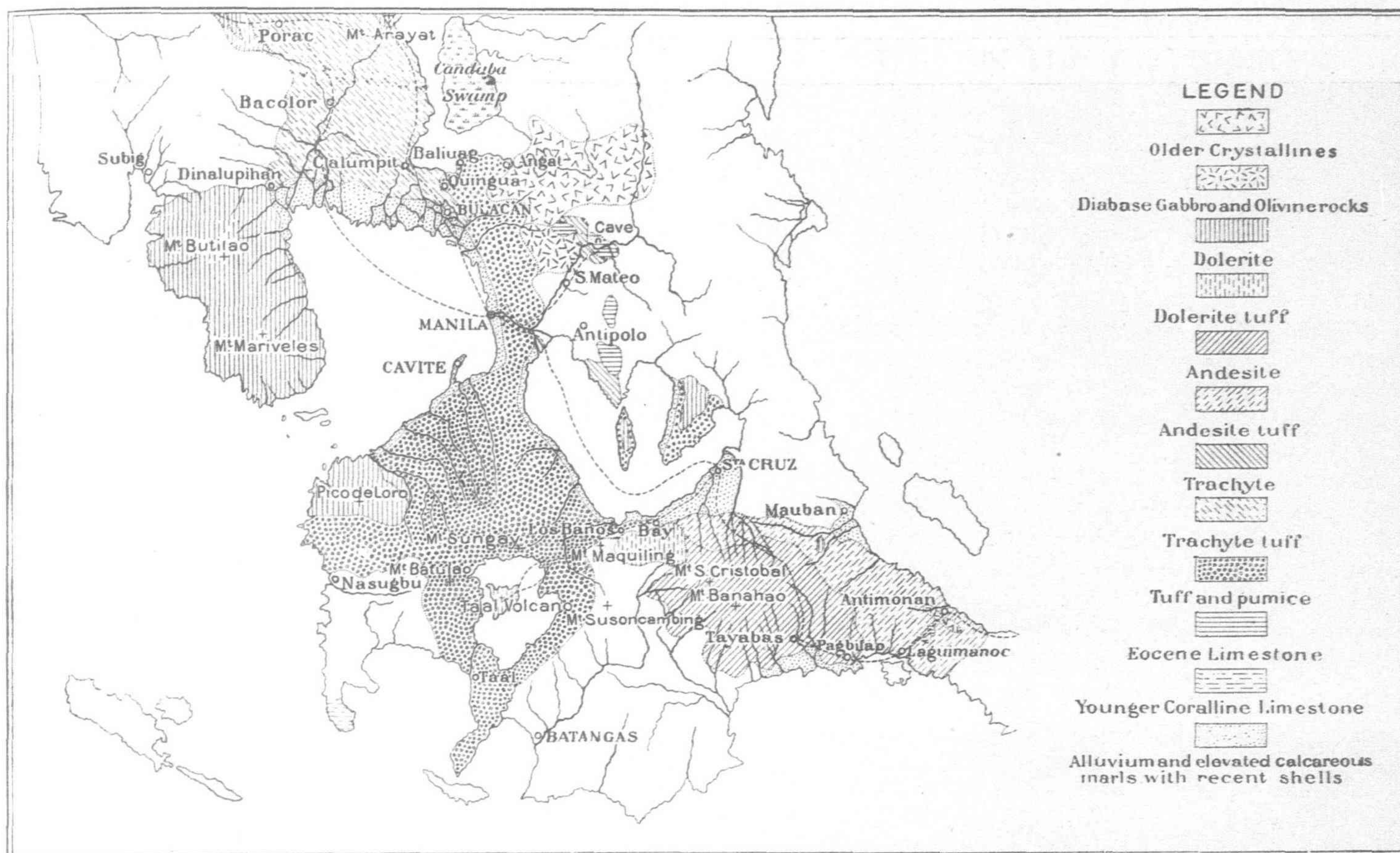


FIG. 2. EROSION ON EASTERN INNER SLOPE OF TAAL, SHOWING BEDDING IN CRATER RIM.

is warmed by the sun, the steam from the green lake usually rises and forms a mushroom shaped cloud which soon becomes detached from the column of vapor which forms its stem. As the heat of the day advances the vapors become more attenuated and are blown about the rising wind, but before this time the visitor should have left the crater if he wishes to avoid an arduous climb in the hot sun. On days when the sky is cloudy, the crater may be explored more at leisure.

"Two lakes lie within this crater. They are usually called the yellow lake and the green lake. During the rainy season there is a third temporary red lake. The yellow lake receives the natural drainage of the crater. It appears to be shallow and is hot, but does not boil. The green lake gives off steam from its surface and near its southern border boils violently as if over a vent. A circular crater is located to the south of the

green lake. On its floor there are several boiling mud spots from which but little vapor rises. On the south border of the yellow lake there is a cone, called the red cone, because of the color of its crater. It is broken down on the south side and drains around its eastern base into the yellow lake. A vent from which steam issues with great force occurs on its northern outer base. The yellow lake now extends to this vent but formerly was



SKETCH SHOWING THE GEOLOGIC MAPPING OF SOUTHWESTERN LUZON, BY VON DRASCHE

separated from it by a narrow isthmus. There is a remnant of an older, large crater rim which forms a crescentic ridge rising south-east of the yellow lake and curving around to the south of the green lake, passing between the green lake and the crater with the mud spots. Visitors to the volcano usually travel on this ridge when exploring the crater of Taal, since it affords a fine view and an easy means of approaching the principal points of interest. The ridge is very narrow between the green lake and the crater containing the mud spots and care must be taken that the wind is not blowing the steam and sulphur fumes in such a direction as to cause them to inconvenience or overcome the visitor. There are small cracks in this ridge from which sulphur fumes issue and at its western end, which is south of the green lake, a descent and detour may be made to the south to reach the remnants of some extinct cones which have level floors. Sulphur fumes and a little steam rise from the cracks in their walls and floors.

"The layers of tuff exposed in the inner wall of the outer crater exhibit bedding and show a banding of colors varying from whites and grays to yellows and reds. The colors are especially vivid on the walls near the points of activity where the hot acid vapors are sublimed on the rocks, forming an efflorescence of iron, aluminium and magnesium sulphates and chlorides producing variegated white, yellow, red, blue and green effects. Small amounts of native sulphur occur in crevices and cavities, but it is inconspicuous.

"In 1880 Centeno visited Taal Volcano while studying the effects of the severe earthquake of that year, and found that the volcano showed no signs of increased activity. From his sketches of the appearance of the volcano and his description we learn that there was at that time one active cone sending up a great quantity of vapor. This active cone seems to correspond with that of his description written in 1882 and is now the crater containing the mud spots. Near the active cone there were some smaller ones which are shown on one of his sketches as giving off thin columns of vapor.

"The yellow lake is described as containing a place near its center where the water boiled up violently and occasionally threw up black mud and sent out waves which agitated the surface of the lake.

"In 1882 Centeno made a study of Taal Volcano and his report is accompanied by a small hachured map which shows most of the features quite clearly. A model of the volcano inherited from the *Inspección de Minas*, is in the division of mines. It is probable that the model was based on the map or was made at about the same time. Studying the model, which is somewhat clearer than the map, but one defect is found which can not be reconciled with the present features of Taal or be accounted for by subsequent changes. The model shows the crater of the red cone as being broken down on the side toward the green lake. As it now exists, it is broken down to the south and drains around its eastern base to the yellow lake.

"Making due allowance for the imperfections of the model and map certain changes have taken place since Centeno described the volcano. The green lake has extended its area to the southward and contains a point where there is violent boiling. The neck of the peninsula which extended into it from the east has been eroded, leaving the point as a pyramidal rock or island in the lake. A steam vent and a sulphur dioxide gas vent separated by a distance of about 15 meters and evidently not connected near the surface have formed at the north base of the red cone. The small inactive cones

(Continued on page 322)

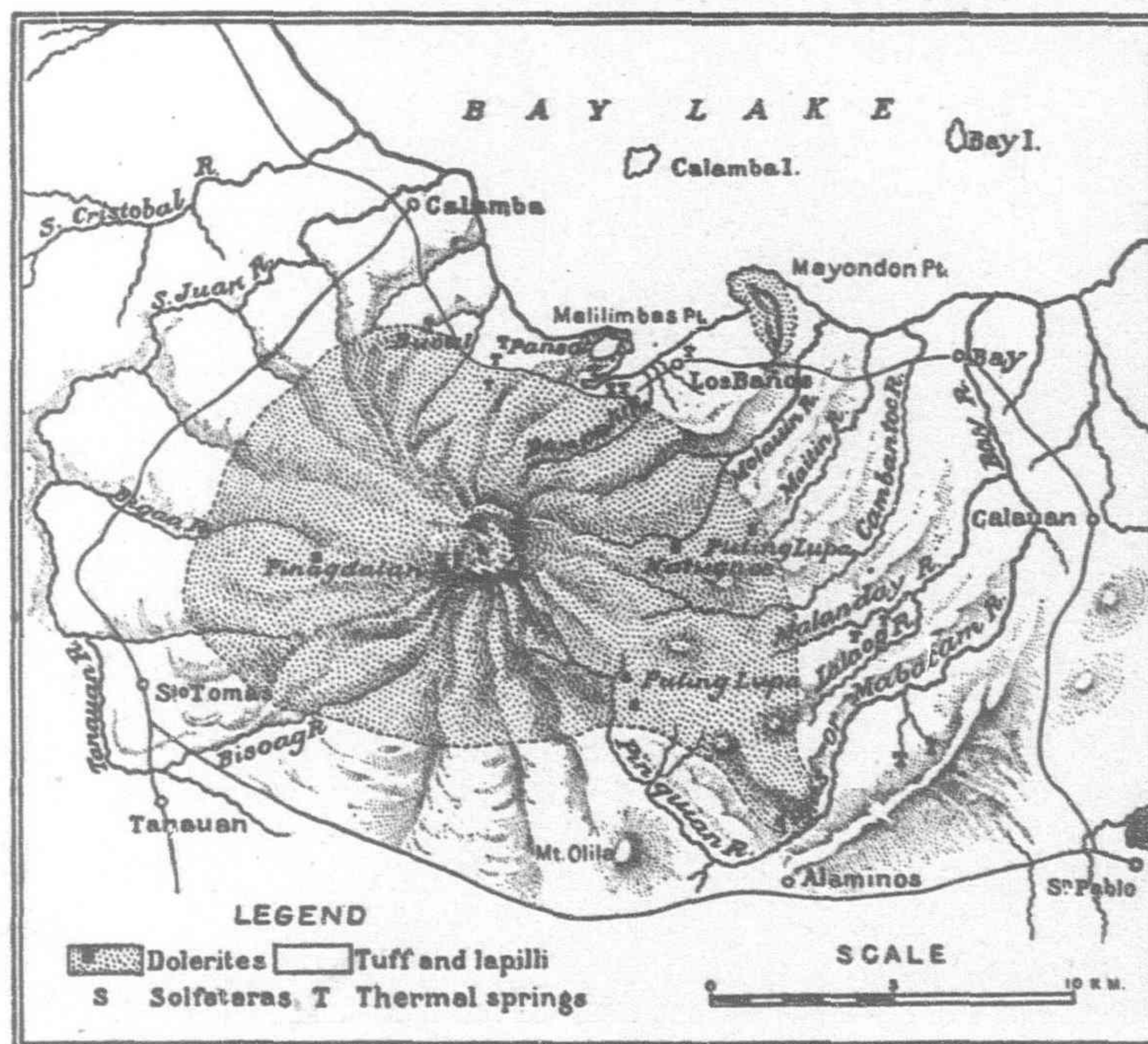
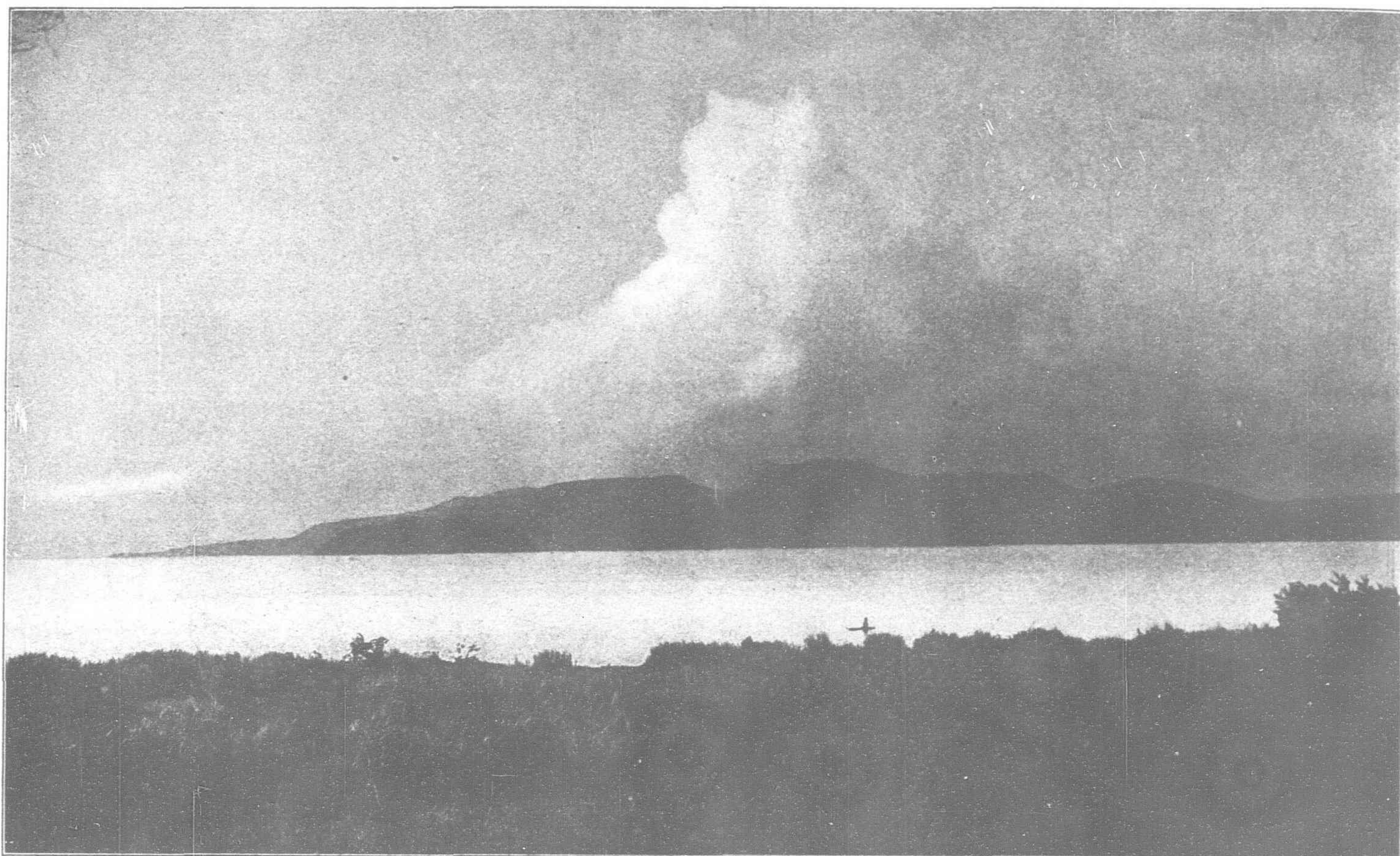
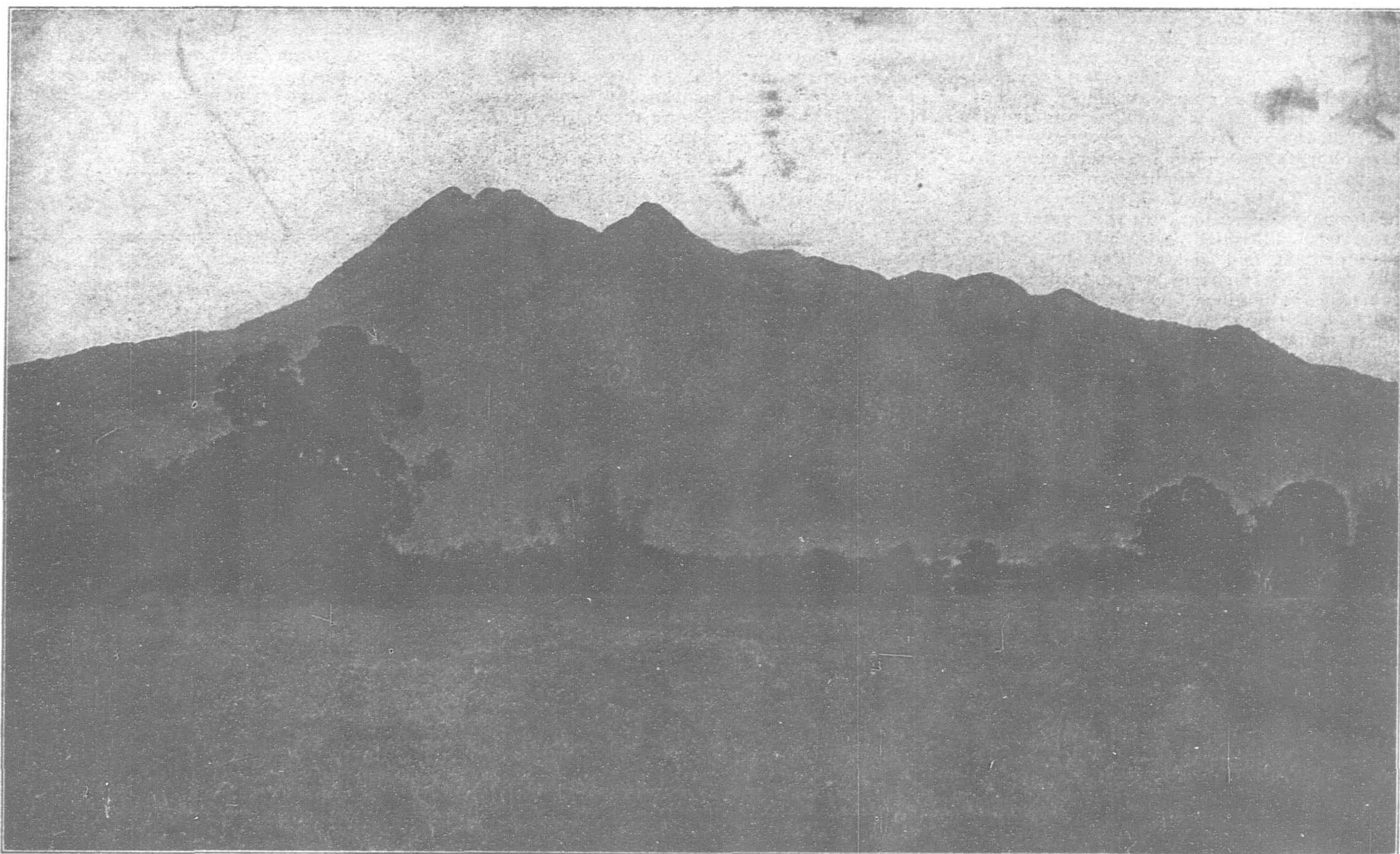


FIG. 6.—SKETCH MAP OF THE GEOLOGY AND TOPOGRAPHY OF MOUNT MAQUILING AND THE SURROUNDING COUNTRY, AS MAPPED BY ABELLA



TAAL VOLCANO AS SEEN FROM BAÑADEROS WHEN THE STEAM RISES IN THE MORNING.



MAQUILING MOUNTAIN AS SEEN FROM THE RAILWAY STATION AT SANTO TOMAS.

THE FAR EASTERN REVIEW

GEO. BRONSON REA, M. E.

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AMERICAN CAPITAL IN THE PHILIPPINES

With one exception it may be said that Philippine development schemes have met with a cold reception from the financial interests of America, and the repeated failures in promoting or financing any project for the Islands is a matter that must receive the serious consideration of the Philippine Commercial Community with a view of improving the condition and eradicating the obstacles. The Islands present opportunities for rapid and profitable development unequalled in the world. The wealth of the tropics is concentrated within their limits. Rich mineral deposits abound, the forests of valuable hard woods are inexhaustible, the sugar lands yield a high average, the hemp monopoly is source of never ending profit, rubber and gutta percha thrive and give handsome returns, but with few exceptions these immense natural resources, after twelve years of American rule, are still worked in the old primitive, wasteful manner which marked the industry of a century ago. It is a severe criticism and reflection on American energy, which permits such untold wealth to remain undeveloped, and is a striking anomaly to American enterprise in Alaska, Hawaii, Porto Rico or Cuba, and a contrast to the methods of Europeans in neighboring countries and Islands. Java is a tropical paradise, and yields immense wealth to the Dutch investors, made possible by the paternal solicitude of the Government. Borneo is forging ahead, and many large enterprises are in successful operation. The story of the industrial development of the Federated Malay States reads like a chapter from a romance, or the Arabian Nights, and rubber kings have supplemented the old time tin millionaires.

Sumatra is famous the world over for its cigar wrappers, and tobacco plantations have spread to neighboring isles. Petroleum abounds, and even Shanghai has its quota of millionaires made rich over night as it were, by the marvellous wells. Indo-China is the rice granary of the Orient and exports its products to the Philippines, and Formosa under Japanese rule, contending with adverse climatic conditions, has developed a modern sugar industry, which shames the Philippines and bids fair in time to rival Java. Not one of these countries can compare in natural gifts with the Philippines, yet they progress and prosper, while the Islands fail to keep pace with the procession. It is time for those who have cast their lot with the Islands to face the problem, seriously consider the question, and try to overcome the difficulties surrounding the investment of American capital in the Philippines and divert the stream which flows so freely into other territorial possessions.

The lack of confidence in the Islands may be traced to various sources, each of sufficient importance when considered by themselves to weigh against the investment of capital. First, and most important, is the political phase. The promise of the Government that the Islands will be granted full independence when, in its opinion, the people are educated and prepared for self government, underlies the entire fabric of native politics and gives strength to the anti-imperialists at home. Native politics, stripped of all superfluous verbiage, is reduced to the issues of immediate independence as against following the tutelage of the United States, until its Government is ready to redeem its promise. Every native office holder, elected by the various independence parties, during his term of office makes some play to the gallery to preserve his reputation and insure re-election, and at regular intervals this takes the form of an appeal to America for immediate independence. And the anti-imperialists and democrats at home for political purposes indorse the appeal to embarrass the Republican Administration. The papers seize on it as important news, and keep the issue before an indifferent public, who, after reading, promptly forget that there is such a group of islands as the Philippines. But when someone approaches the investor with a Philippine development scheme, his brain is stirred to action, and forgetting the details, he remembers the essential fact, that the Islands are to be granted Independence someday and he forthwith refuses to entertain any proposition not likely to remain under the flag. And no amount of explanation or argument can shake that fundamental fact. So at the root of all the trouble lies the professed policy of the Government.

Another and more serious aspect of the political phase is the constantly recurring war scares with Japan. About the time an issue of Philippine bonds is offered for sale, or a promoter is striving to interest capital in Insular ventures, the newspapers at home publish some highly important interviews, disclosures or articles by special writers, to the effect that war between America and Japan is inevitable, and as a first step the Philippines will be sacrificed or captured. And the price of the bonds fall in consequence, and the promoter sees the hard work of months disappear, and has to begin all over.

Notwithstanding that no issue exists between Japan and America calling for a break in their friendly relations, and despite the fact that the higher officials of both nations realize the danger of such unprovoked and unnecessary scares, which only excite public opinion and create distrust when none before existed, the "advance agents of Armageddon" return to their obsession, and keep the public mind inflamed. When no legitimate issue or cause for friction can be discerned, along comes a writer who unhesitatingly declares that the genesis of any war between America and Japan will arise out of Manchuria, and then proceeds to prove his conclusions, winding up with the capture of the Philippines by Japan. When the first issue of Philippine railway bonds was on the New York market, and conditions seemed favorable for a successful and profitable flotation, Mr. Millard's articles appeared in a leading *New York Daily*, and their price dropped several points and has never recovered. Again when the market was tranquil, war scares forgotten, and another issue ready for subscription, America was invaded by the English writer "Putnam Weale" who in lectures and articles revived the issues, and told the country that "America must curb Japan."

Why America should assume the sole responsibility for preserving the integrity of China, when all powers are equally interested in maintaining the status quo, is something only writers like Mr. Millard or "Putnam Weale" can explain. And when no definite issue is discernible, the war mongers revert to the supremacy of the Pacific. Some gifted editorial writer, a few years ago, coined the phrase, "Hegemony of the Pacific," and now when all other arguments fail, the Hegemony is duly resurrected, brushed up, and made to do extra duty in explaining why America must defeat Japan. America has survived for over a century, without the Hegemony of the Atlantic or coming in conflict with or disturbing the power that holds this traditional advantage. Why America should go to war to preserve in the Pacific, something she does not possess in the Atlantic, is a point which seems to be overlooked, for the same strategical reasons apply to both Coasts. But these arguments are highly instructive and make fine reading and do no harm—except to the Philippines.

This phase of the situation is therefore serious; and one which the Government and Insular interests are powerless to check.

Another reason why capital is reluctant to enter the Islands for industrial enterprises, is the difficulty of securing an adequate and continuous supply of labor. There is no use in disguising this fact, and deluding ourselves that it does not exist, for it does. Labor exists in the Islands for all practical purposes, but it has to be educated, and forced to recognize the advantages of honest toil. Americans in the Phil-

ippines are just commencing to learn what the British and Dutch forgot a century ago—that the Malay won't work. And so long as he can recline in a hammock under the shade of a banana tree and reach up and pluck a meal overhead, or dig a yam or sweet potato out of the ground with his toes, and force his wife to catch a few little fish to mix with his mess of rice, there is little inducement for him to be otherwise. The Dutch solved the problem in Java by compelling them to labor, and in the Malay States the Chinaman has been the mainstay of all industry. This is another obstacle to the investment of capital in the Islands, and is traceable directly to the altruistic policy of the Government, which says that the land must be preserved for the original inhabitants, and not delivered over to the Chinese and other industrious Oriental laborers. And until Congress modifies its general policy, our only hope lies in the industrial education of the people, and the awakening of them to a realization of the opportunities they are wilfully neglecting.

Another potent factor operating against the investment of American capital in the Islands is the loss of confidence in Insular securities due to their decline in value. When the investor sees Philippine Government 4% Gold bonds decline from 114 to 100 within a few years, he naturally associates this apparent waning of the credit of the Islands with some important political complication, for which the Japanese war bogey and Manchurian nightmares are largely responsible. The Philippine Railway 4% bonds, which are guaranteed, and which sold at 96.5 and interest in 1908, at present have no market at 87. This great decline in values, without any logical cause or disturbance of the Insular credit, is a serious handicap to the further progress of development, for it is quite clear that the holders of these securities have a most unfavorable opinion of investment in the Islands. As these securities are largely held at home and abroad by investors whose influence is of some weight in financial circles, their pessimism has influenced many others against taking up Philippine investments, thus creating a condition that no amount of "boosting" or publicity propaganda can overcome.

This decline in the price of standard government guaranteed bonds to the extent that no market exists for their sale, makes it next to impossible to secure new capital for Philippine enterprises. Here is a situation which must be faced, and some remedy applied to the evil. Nearly all Philippine enterprises in the very nature of things are industrial or construction propositions which limit the market for their securities. The geographical location of the Islands makes it impossible for the average investor to have any accurate knowledge of the actual condition of affairs, or the value of the securities offered, and when he is approached by the pro-

moter to participate in some venture, he naturally turns for guidance and advice to those who are already heavily interested in Insular securities. This rule holds good all over the world, for we find that the enterprises of different countries must be financed by or have the approval of the certain group of bankers who specialize in the securities of the respective countries. All propositions of a special character inevitably find their way directly or indirectly to these financial interests, either for co-operation or indorsement. Investors come to look to them for guidance in investments in these special fields, and refuse to consider any proposition which does not emanate from, or at least have their cooperation. And Philippine investments follow the rule of the world, and have their recognized financial authorities at home, whose cooperation is necessarily vital to the successful flotation of any large enterprise for the Islands.

The bankers and their friends who have been interested in the largest and most important undertakings thus far financed at home, have not only found indifferent success in placing Philippine securities, but have met with loss in their ventures. Not only have they contended with a limited and unsympathetic market, but have had to fight against the unfavorable impression created by the falling prices of the Philippine Government Bonds, and witness their own securities decline far below the prices which they paid for them. And now when new Philippine enterprises are placed on the market, and the investor turns to them for advice, is it reasonable to hope that they will be loud in their praise of the Islands, or that they will feel inclined to take the initiative or cooperate in further financing under present unfavorable conditions?

So we find that the various political phases of the situation have resulted in a material decline in the value of Philippine securities. The bankers and their friends who purchased the bonds are in turn unsympathetic, and their attitude finds reflection among the "men in the street." Many who might consider Philippine Bonds at current prices as a cheap investment, are deterred from purchasing them by the knowledge of the difficulty they would experience in selling, if they should later require the money for other purposes. And we cannot delude ourselves with day dreams or be led astray by the temporary hurrah of a publicity meeting or a successful carnival, for so long as these conditions continue to exist it will be practically impossible to secure adequate support for the numerous enterprises and developments which must be undertaken if we are to witness in the next decade

the material development of the Philippines which all interested are working so hard to bring about.

COMPARISON OF GOVERNMENT BONDS	%	Average Annual Price 1909.	Present Market Price.	Average Annual Price Reduced to a 3% basis.	Present Market Price Reduced to a 3% basis.	Real Interest Earned at 1909 Market Price.	Real Interest Earned at Present Market Price.
English Consols.....	2 1/2	83.76	79	100.52	94.94	2.98	3.16
French Rentes.....	3	97.20	97.97 1/2	97.20	98.04	3.09	3.06
German Imperial loan.....	3 1/2	95.11	92.	81.52	78.12	3.68	3.84
German Imperial loan.....	3	84.71	83.	84.71	83.18	3.64	3.61
U. S. Debt.....	4	119.11	115 1/2	106.17	103.53	2.62	2.70
"	3	101.47	100 3/4	118.45	116.72	1.92	1.96
"	3	101.75	100 3/4	101.75	100.75		
Panama.....	2	100 1/2	100 1/2		120.27		1.93
Panama.....	2 (1906)	100 1/2	100 1/2		120.27		

It should be noted that there has been no fundamental change in the intrinsic value of Philippine bonds. The question of whether any remedy can be found for these conditions is one of pressing importance to the commercial interests of the Philippines. Fortunately, we find in the conduct of the United States government finances a parallel and example which seems to offer an adequate solution of the difficulties which confront us here. For many years the United States treasury has been able by a very simple but arbitrary method to sustain the prices of its bonds, advancing them whenever it had any to sell.

The prices of the United States government bonds are not determined by the ordinary investment demand, which supports the interest bearing debt of other countries. The credit of the United States, although admittedly the highest in the world, does not warrant the sale of United States Bonds at prices yielding 2% and less, while British Consols sell on a 3.16% basis and French Rentes on a 3.06 basis, and other absolutely safe investments yield at least twice as large an income.

STANDARD RAILROAD BONDS YIELDING OVER 4%.

	Present Price.
Atchison, Topeka & Santa Fé General 4s.....	98 1/4
Chicago & North-western General 4s.....	98 3/4
Reading Co. General 4s.....	98
Union Pacific First & Refunding 4s.....	96 3/4

It is only possible for the United States to borrow money at such low rates

because of its national banking system, under which the national banks can issue currency secured by an equal par value of Government Bonds, and through the policy of the United States Government in depositing its surplus funds in national banks and requiring Government bonds as collateral. It is this latter feature which has given the Government in the past a powerful lever on the market for its securities.

Before examining the mechanism of this system it would be well to refer to a few figures. The interest bearing debt of the United States now approximates \$913,317,490, of which \$696,200,790 bonds or about 76% of the total debt is on deposit at Washington to secure circulating currency; a large proportion, which cannot be estimated exactly, is held by estates and individuals who desire the "safest investment obtainable" no matter what the price. In a general way, the proportion of bonds held to secure currency and for private investment is constant. Between these two classes of holdings there is what may be termed the floating supply.

The surplus funds of the United States are not permitted to lie idle in the treasury but are deposited in the national banks. It is this system of depositing government moneys against suitable collateral which forms the powerful auxiliary to the currency system in regulating the demand for, and the price of, government bonds.

The Secretary of the Treasury has the absolute power of determining what collateral he will accept to secure these deposits. Of course United States bonds are always given the preference, but when the government's deposit with the banks is so large as to cause United States bonds to sell at too high prices he may order the acceptance of other securities as collateral, including territorial, state, municipal and railroad bonds. A few actual operations of the Government will serve to show how this system works in practice.

In 1906, when the first issue of Panama Canal 2% bonds was offered for sale, the then prevailing prices of United States 2% bonds indicated that the Panama bonds would only bring a very small premium as they would undoubtedly sell on a parity with the Consols. The Secretary of the Treasury thereupon issued an order that banks having bonds other than United States government bonds or territorial issues to secure their deposits must substitute for such issues United States government or territorial bonds. The effect of this action upon the market for government issues was instantaneous and advanced their prices so materially that the Panama sale was extremely successful and netted the government a premium of over four points.

A short time after the Panama sale, government deposits increased to such an extent that it was considered reason-

able to again accept railroad, state and municipal bonds as collateral. Then came the acute monetary situation which culminated in the panic of 1907. Government deposits with the banks were immediately increased for the purpose of relief to an unprecedented figure, reaching a total of \$223,117,082 in December 1907. At that time the prices of United States bonds would of course have been advanced to unusually high levels had not the Secretary of the Treasury accepted state, municipal and railroad bonds as collateral.

The effect of the panic upon the government's income was no less marked than upon the industrial income of the country in general. Imports decreased heavily and the monthly treasury statements showed a rapidly increasing deficit. Consequently it became necessary to withdraw government deposits from national banks. Within a period of seven months deposits fell from a total of \$223,117,082 to \$118,576,923, and by September 1909 had fallen to \$35,228,921, which was as abnormally low as the former figure was abnormally high. The rapid withdrawal of deposits resulted in flooding the market with government bonds. This was due to the fact that the banks naturally preferred, as their deposits were reduced, to withdraw and sell their government bonds and leave the state, railroad and municipal securities, which yield twice as much income to secure the balance of their deposits.

Here again the power of the government to sustain the prices of its bonds is illustrated. Secretary Cortelyou, in order to relieve the pressure upon the government's bond market, issued an order requiring banks to release railroad, state and municipal bonds prior to government or territorial issues as their deposits were reduced. The text of this order follows:

"The Treasury Department, when the deposit of public moneys with the various national banks is reduced, will require that bonds other than the following be first withdrawn: United States, Philippine, Philippine Railway, Porto Rican and Hawaiian."

When Mr. MacVeagh became Secretary of the Treasury he reinforced this order by giving notice that thereafter only United States government and territorial bonds would be accepted as security for deposits. The arbitrary power of the government in these matters is best shown by the terms of the ruling, as follows:

"The Secretary of the Treasury today announced, in accordance with the act of Congress approved March 4, 1907, that when further public deposits are made with banks the following named bonds and no others will be accepted as security for such deposits:

"United States, Philippine, Porto Rican and District of Columbia bonds at par: bonds of Hawaiian Territory at 90% of par: bonds of the Philippine Railway at 90% of market value, but not exceeding 90% of par.

"No additional deposits are, however, in contemplation.

"All banks holding deposits of public funds secured by any bonds other than those above named as acceptable will be required to withdraw such bonds on or before February 1, 1910, and substitute therefor bonds described above."

These measures, however, have been of no avail because at the present time government deposits amount to but \$36,836,471 and are too small in relation to the floating supply of government bonds to do much towards sustaining their market. This situation is largely due to the use of the government's current receipts to build the Panama Canal. Practically no improvement in the situation can be looked for until the United States treasury is again in funds sufficient to deposit in substantial amounts.

It would be well to point out here that even if the United States government were to make large deposits, accepting the bonds declared to be suitable collateral in the recent order given above, the Philippine securities would not be benefited materially thereby. This would be due to the fact that under this order a bank is given the privilege of choosing between United States and Philippine bonds when selecting the securities to be used as collateral for government deposits. In selecting bonds for this purpose a bank considers first, marketability; second, stability of price; third, opportunity for profit.

United States bonds of course have a wide and active market capable of absorbing with ease the sale of a large amount of bonds at any time. Banks buy them in anticipation of their use as collateral for government deposits. They have shown an excellent record in respect to their prices which are practically unaffected by market conditions, having regard only to their use as security for government deposits and for the issuance of banknote currency. Turning to the Philippine bonds, we find that the purchase by a bank of these issues at present prices would be a much more profitable operation than the purchase of United States government bonds. The difficulty, however, which precludes all possibility of a bank selecting these bonds for this purpose is that they do not have the first two requisites, namely marketability and stability of price.

Having seen how the United States regulates the prices of its securities through the medium of its deposits with the banks, and realizing that practically no assistance can be looked for from that government, it is important to learn how this system could be applied by the Philippine government to the advantage of its own securities.

The means at the disposal of the Philippine government should be effective for this purpose. At the present time the Philippine government has \$15,000,000 on deposit with banks in the United States. The total funded debt of the Philippine government, including the Land Purchase and City of Manila bonds, amounts to about \$16,000,000, and the bonds which are guaranteed as to interest by the Philippine government to \$9,943,000, making a

total of \$25,943,000 bonds now outstanding.

Of the former it is safe to assume that at least 50% are securely placed in the United States and would not be apt to come into the market. Of the latter probably an equal proportion was placed in Europe by bankers, and the class of European investors who purchased these bonds are notoriously close holders. In short, it is probably a very excessive estimate to say about 50% of the funded obligations of the Philippine government is likely to contribute to the floating supply, and of course, only a small percentage of this amount would be likely to come into the market at any one time. Consequently it will be seen that a moderate amount of purchasing power would be apt to advance very quickly the prices of these securities.

If the Philippine government were to profit by the example of the United States government and give preference to its own securities in naming the collateral acceptable as security for its deposits, the problem of prices for its bonds would be largely solved. It would be well to note here that at the present time only \$441,000 Philippine Government and \$252,000 interest guaranteed bonds are among the collateral securing the deposit of about \$15,000,000 of Philippine funds. This fact proves that a bank will not buy Philippine bonds unless the government requires their use in preference to other securities. It would not be necessary to insist arbitrarily that the only acceptable collateral would be Philippine government or interest guaranteed bonds. It would be sufficient for the Insular Treasurer to require that the deposits be secured preferentially by

- (1) Philippine Government bonds.
 - (2) Bonds guaranteed as to interest by the Philippine Government.
 - (3) United States Government bonds.
- and if necessary a fourth class for other securities could be created. It would then be left to the discretion of the Secretary, as is the case in the United States, to determine when securities other than the first and second classes would be accepted. In this way there would be no injustice in forcing the banks to buy Philippine Government or interest obligations at a time when the prices of such bonds were prohibitive. On the other hand, under normal conditions, a good market would be created for the Philippine bonds and depositaries would use collateral which would yield a materially larger income than United States Government bonds and which as government obligations would represent a stronger security than the railroad bonds accepted at the present time.

The Insular Government now receives 3% interest, which is practically in the nature of a tax upon its deposits. Even if the restriction of the collateral to the advantage of the Philippine securities might necessitate a slight reduction of this rate, this would be fully compensated by the advantages of the plan to the Philippine Government. It may be pointed out that this rate could be lowered substantially and still be larger than the rate received by United States deposits, viz., 1% per annum. There would probably be little difficulty

in obtaining an intermediate rate of say 2% on Philippine deposits, owing to the fact that they are of a relatively permanent character, and by placing deposits for definite periods, which would be tacitly understood, although not absolutely agreed to by the Government, the average interest rate should be sustained at a fairly high level without difficulty. In this connection it should be noted that Philippine bonds would yield the banks a higher income than the United States bonds held by depositaries for United States Government funds.

The advantages accruing from this plan would be four-fold:

First: The prices of the Philippine obligations now outstanding would be advanced to their former levels, which would give a distinctly better tone to the credit of the Philippine Government, and when it becomes necessary to issue additional bonds their sale would be assured at a good price. A bill to authorize \$5,000,000 additional bonds has already passed the Senate, which makes this a very important matter.

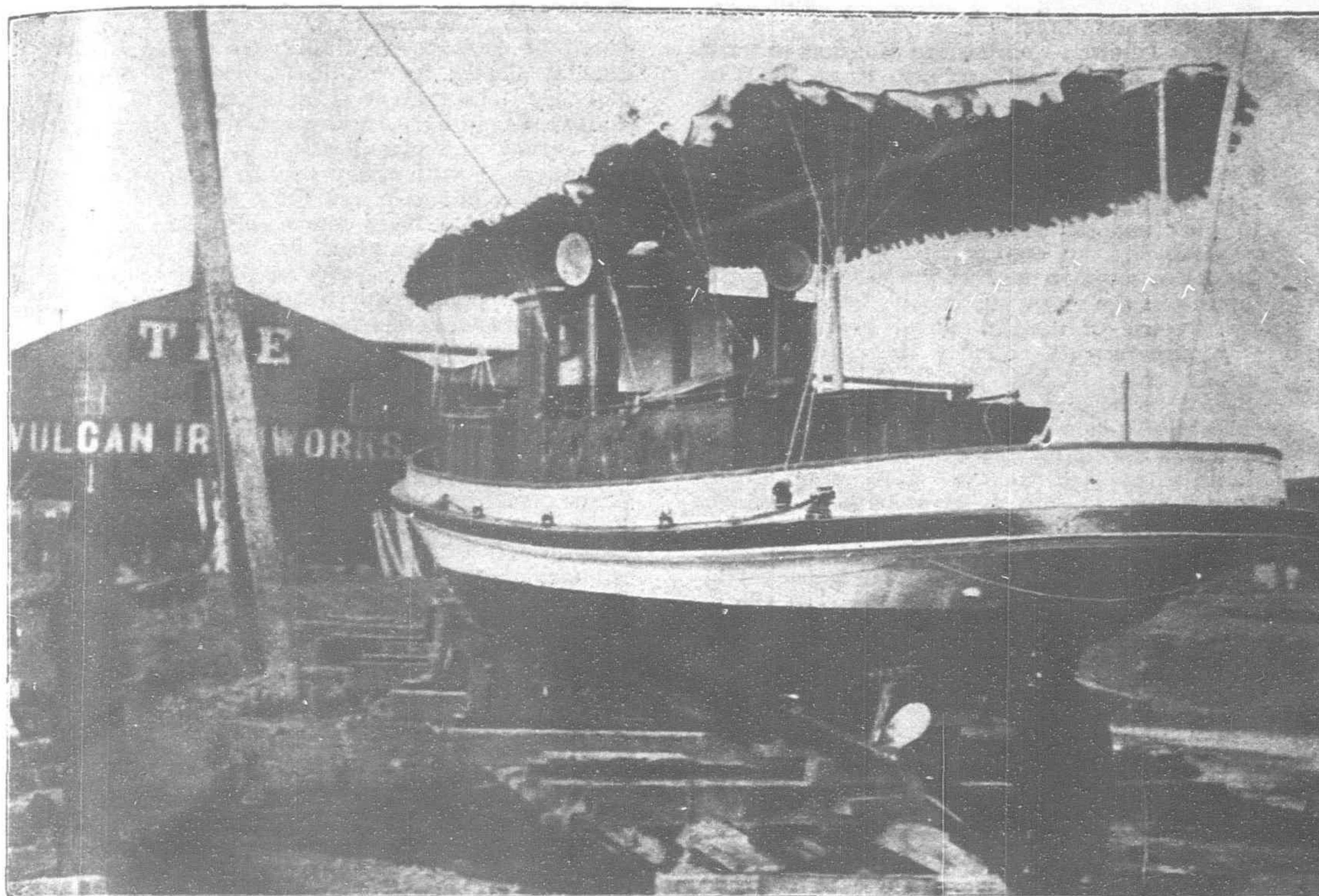
Second: The very favorable sentiment created by a recovery in the prices of Philippine securities would be of pronounced assistance in placing bonds to which the Government may give its guarantee as to interest for the construction of additional railway lines. The Government has been given the right to guarantee the payment of interest on a total of \$30,000,000 4% bonds, but at the present time guarantees the interest on only \$9,943,000 of bonds. Under the plan proposed this guaranty would insure the successful financing of any enterprises thus favored by the Government.

Third: A market would be created for the securities of Philippine industrial enterprises. It is of utmost importance to the development of the resources of these Islands that it should be possible to obtain American capital for Philippine enterprises. Under the proposed plan the present floating supply of Philippine securities would be permanently cleared out of the market. With the market improved through the removal of these bonds and through the effect of their higher prices it would be possible to finance new Philippine industrial enterprises under the most favorable conditions.

Fourth: There would be a direct advantage to the Philippine Government which has invested funds of the Postal Savings Bank and the Philippine Government's sinking funds in the Philippine Railway Company interest-guaranteed First Mortgage 4% Bonds. These bonds, which were originally purchased at various prices ranging between 96 and the present market, and which are now quoted at about 86 to 88, would unquestionably find their former levels, which would result in a substantial increase in the market value of the Government's investment.

In conclusion, it is apparent that the Philippine Government should employ these most effective means to support its own credit and thereby remove the conditions which at present prove to be an unsurmountable barrier against the investment of American capital in these Islands.

THE TWIN SCREW MOTOR LAUNCH "SUMATRA"



MOTOR LAUNCH "SUMATRA" BUILT BY THE VULCAN IRON WORKS LD. OF SHANGHAI, FOR THE ASIATIC PETROLEUM CO. LD.—DIMENSIONS, LENGTH 66'-0" OVERALL, BREADTH 11'-0", DEPTH 5'-3", DRAUGHT 4'-3".

The twin screw motor launch "Sumatra" built by the Vulcan Ironworks, Ltd., of Shanghai for the Asiatic Petroleum Co., Ltd., is constructed of steel plates and angles of light scantlings suitable for the work, the lines are fine and very easy, the decks are laid with best selected teak. The planks are narrow giving a handsome appearance. The main accommodation of foreign passengers is placed forward and can seat 10 persons comfortably. A small toilet room opening off the saloon affords a convenience rarely found in launches of this size but one appreciated by passengers. Access is gained to the saloon by two entrances, one forward and one aft, this will give a through draught of air in hot weather and is also advantageous in case of accident as it will rarely happen that both doors would be blocked at one time, a state of affairs always possible when there is only one entrance. The saloon is neatly upholstered in rexine and linoleum with the teak-wood highly polished.

A wheelhouse is placed amidships with steering gear and a reply telegraph connected with the motor room. The usual gong and jingle has been abandoned as being unsafe with twin engines. Aft the wheelhouse a room has been provided for Chinese passengers.

The motors which are placed just abaft midships are Gardner motors manufactured by Messrs Norris & Hentley, England. They are rated to develop 50 brake horse power each on a very low consumption of kerosine. As they are started with this fuel, no petrol is required, thus eliminating the danger from the presence of that highly inflammable fuel on the vessel with the consequent anxiety to the owners. A further advantage is that as kerosine can be obtained locally all over China there is no probability of the boat being "hung up" miles from home for want of fuel. The lamps for heating the vaporizers are noiseless, being of a special construction.

Accommodation is provided for a Chinese crew of five aft decks at bow and stern in quarters roomy and clear of obstructions.

Taken as a whole the launch has a highly pleasing appearance combining grace and adaptability. The "lines" are specially designed to afford quick maneuvering capabilities,

a feature which is highly necessary in the crowded waters of the Whangpoo.

In the yard, among other works under construction is a large pontoon, 225' x 30' x 6'-0", the contract for which was signed on the 20th of December last. The bottom is laid, frames and beams are in place and part of the side plating in position. It is proposed to launch this pontoon this month, and give complete delivery including mooring in place, before China New Year. Two steel pontoons 60' x 15' x 4'-9" were lately constructed and delivered complete in 18 days. These performances speak for themselves and require no comment at our hands.

MOTOR LAUNCH "PONG FEE"

This launch was built for the Asiatic Petroleum Co., Ltd., by a Chinese boat builder to the design of Mr. F. O. Reynolds, Resident Engineer to the Company, for ferry work on the river at Newchwang.

Its dimensions follow: Length, 36'-0"; Beam, 8'-0"; Mld. Dept. 4'-10"; Draught, 3'-10". The "Pong Fee" is constructed of teak and is very strong and substantial throughout. It is engined with one 30 B.H.P. kerosene oil "Kelvin" Motor which gives her a speed of 9½ miles per hour. This launch will run for two hours at full speed on one tin of ordinary kerosene oil. The cost of this launch complete and ready for work was \$4000. In the designing of the "Pong Fee" special attention was paid to producing a boat that could go out in rough seas and during cold weather. The high bow forward, which contains the crew's quarters enables the boat to keep dry in a choppy sea such as is experienced in a river where strong tides and winds prevail. The cockpit aft gives open but sheltered accommodation to the passengers. The steersman is also well sheltered in the pilot-house amidships.

BRITISH AND FOREIGN SHIPPING FOR 1910.

A review of the annual report of Lloyd's Register of British and Foreign Shipping for the year ended June 30, 1910, shows new tonnage classed by the society during the year of an aggregate of 929,946 an increase of 64,962 tons over 1908-09 which was the lowest registry of new vessels recorded during the decade. The year 1906-07 was the banner year with 1,484,722 tons to its credit. This evidences renewed activity which may continue until the usual over a million tons annually are resumed.

The year 1909-10 indicated a marked falling off in sailing craft classed the total being 6,243 tons as against 9,265 in the previous year and as against 26,916 tons in 1900-01. The lowest year's register during the decade was 4,066 tons in 1905-06.

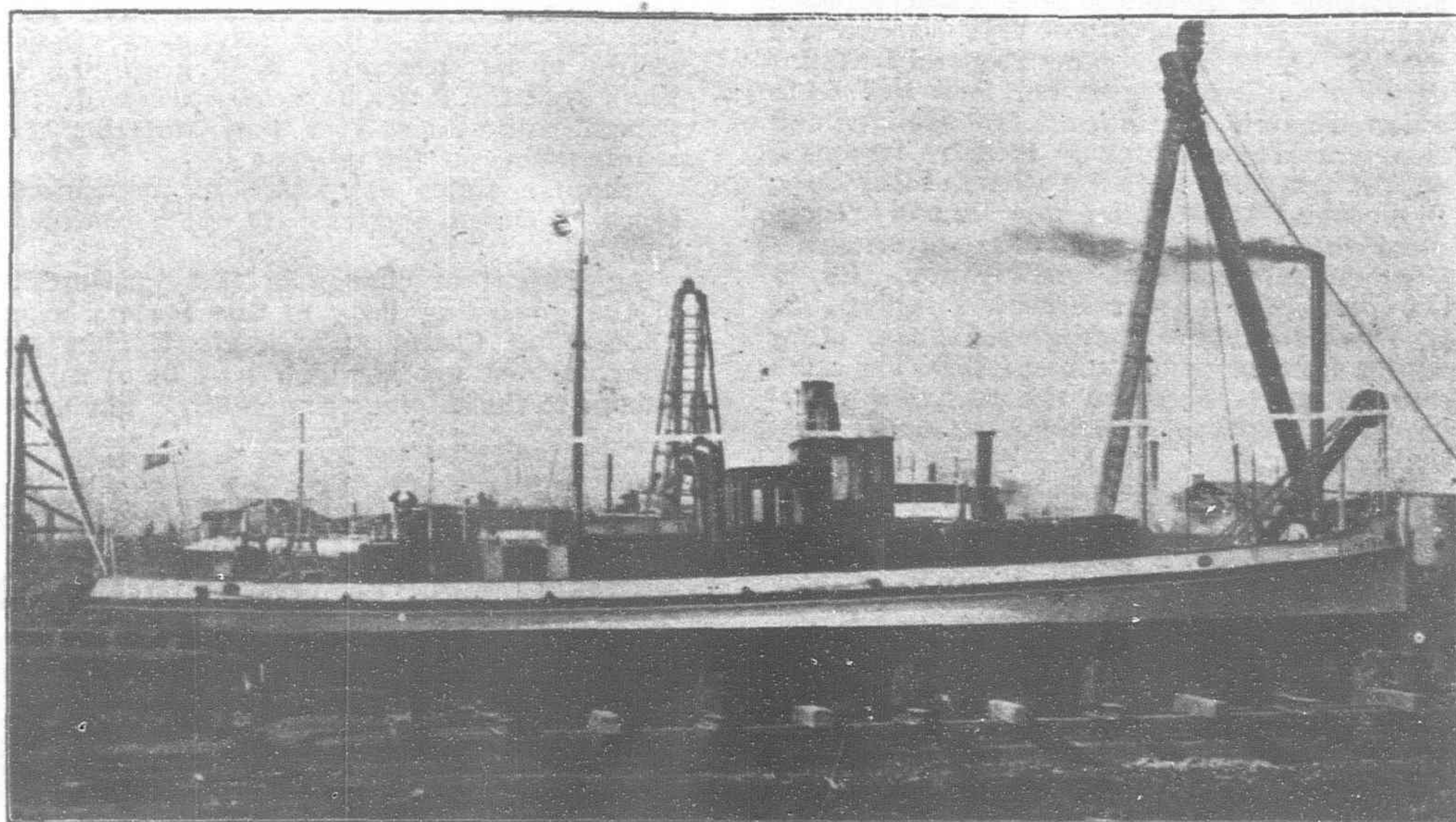
For the year the total number of vessels classed by the society was 540 of which 461 were steamers and 79 sailing ships. Of these 66% were built for the United Kingdom and 34% for the British colonies and foreign countries.

The total number of merchant vessels registered at the close of the year were 10,302 with an aggregate tonnage of 20,500,000. These may be divided into iron and steel and wood and wood and composite as follows:

Iron and steel: Steam—British 6,081, tonnage 12,346,171; Foreign 2,911, tonnage 6,436,533; total 8,992, tonnage 18,782. Sail—British, 430, tonnage 691,287; Foreign, 702, tonnage, 1,034,547; total, 1,132 tonnage, 1,725,834.

Wood and Composite: Steam and Sail—British, 169, tonnage, 23,704; Foreign, 9, tonnage 3,241; total 178, tonnage, 26,945.

The revised rules which were put in effect July 1, 1909, after careful consideration and investigation into the requirements of the shipping trade have given satisfaction both in the United Kingdom and abroad. The Secretary says:



THE LAUNCH "SUMATRA" ON THE WAYS

"While maintaining the Society's high standard of efficiency, the Rules are adapted to provide for vessels designed to meet all the varied requirements of the world's shipping trade".

Since these new rules were promulgated approval has been given plans for the construction of vessels aggregating nearly 2,000,000 tons.

A large measure of space is devoted by Secretary Scott to consideration of rules governing internal combustion engines, the use of which is assuming large proportions in other than yachts and small craft. With reference to these engines the following interesting excerpt from the report is of special interest:

One feature of the year was the registration of 34 steamers of upwards of 5,000 tons in the 100 A-1 class of which two were owned by the Union-Castle Mail Steamship Co. Ltd. of 13,361 and 13,326 tons and the Orvieto 12,130, and Otranto, 12,124 tons for the Orient Steam Nav. Co. Ltd. Two vessels, the *Franconia* and *Laconia*, of about 19,000 tons each, of the Cunard line are included in this over 10,000 ton class referred to. Of the different types building subject to Lloyd's are an oil steamer for the British Admiralty, a screw steamer for the Canadian government, a dredger each for the Australian and United States Government, the last for the Panama canal works.

Plans submitted for new vessels included 720 of steel, 58 of wood and four composite, in all 782 vessels, an increase of 34% over the previous year. During 1909-10, 759,987 tons of ship and boiler steel were tested by the surveyors of the society, an increase of 282,474 tons over 1908-09.

Statistics show 72 steel manufacturers in the United Kingdom and 164 abroad recognized by the committee for the production of steel and machinery for ship construction.

Reference is especially made in the report to the classification of the vessels plying on the Great Lakes. During the year an investigation was under way under the direction of Mr. Buchanan, Principal Assistant to the Chief Ship Surveyor, and a draft of proposed rules are now under consideration. One vessel 600 feet in length is being constructed under Lloyd's survey for these waters and plans for others have been approved. A Senior Ship Surveyor has been stationed at Cleveland, Ohio.

Including Cleveland there are now 60 Exclusive Surveyors representing the Society in the different ports outside Great Britain.

The testing of chain cables manufactured by annular process is now arranged for under the provisions of the Anchor and Chain Cables Act. In all 304,505 fathoms of chain cables and 6,843 anchors were tested at the Public Proving Houses of Great Britain and in all there are 21 testing machines throughout Europe and 19 in the United States recognized by the society.

Cargo vessels equipped with refrigerating plants holding Lloyd's R. M. C. have increased in number to 128 and 677 surveys were carried out during the year. The proposal for international agreement covering load line regulation received encouragement. Holland and Denmark have adopted British freeboard regulations, and the regulations of Germany, France and Holland are now formally recognized in Great Britain. Other governments have the subject under consideration. Under the provisions of the French shipping law Lloyd's certificates are recognized as exempting vessels from government inspection. The same recognition is accorded the society's certificates in Norway, Sweden, Denmark, Russia and Spain.

The installation of wireless and submarine signal apparatus has been marked during the year, the Society's Register containing reference to 702 vessels equipped with the former and 459 with the latter.

The largest yacht constructed during the year was the steel schooner *Westward* of 300 tons, the first built under the international rating class in America for racing. During the year eight scholarships granted by the Society were taken up as follows: Three in naval architecture at Glasgow University; three in naval architecture at Armstrong College, Newcastle-on-Tyne, and two in marine engineering in connection with the Institute of Marine Engineers.

"The use of Internal Combustion Engines for marine purposes has hitherto been confined to small vessels and yachts, but the possibility of the use of this description of engine as the motive power of large vessels is now becoming a question of immediate and practical importance.

"The Internal Combustion Engines in most general use on land and also those fitted in small vessels are worked upon the 4-stroke cycle principle, and are single-acting, so that with each cylinder there is only one impulse for two revolutions of the shaft. With this type of engine there is considerable difficulty in effecting the reversal of the direction of rotation of the engine, and when these engines are used for marine purposes the astern motion of the screw has usually been obtained by the use of toothed wheel gearing.

"Comparatively recently there has been a development in the Diesel Oil Engine for marine work. A 2-stroke cycle has been successfully adopted, and the reversal is effected in the engine itself, the crank shaft being directly coupled to the screw shaft. The Diesel Oil Engine is now being fitted to three fairly large vessels being built on the Continent under the supervision of the Surveyors to Lloyd's Register. One set is being constructed on the older principle of the 4-stroke cycle with single-acting cylinders, and will be of about 450 I. H. P. Another set is being made on the 2-stroke cycle, also single-acting, and is intended for a twin screw vessel, the power being about 900 I. H. P. on each shaft. The third set is being made on the 2-stroke cycle double-acting system, each cylinder providing two impulses per revolution; this also will be fitted in a twin screw vessel, the total power being about 1800 I. H. P. In each of these cases the engines will be directly coupled to the screw shafts.

"In a set of Internal Combustion Engines, which is being constructed under the Society's survey in this country for a vessel of about 260 tons, there are several novel features. The engines are intended to work with gas produced on board from anthracite coal. The cylinders are of comparatively small size, and the engines are intended to run at a high rate of revolution, and will not be reversible. The connection with the screw shaft will be made by means of a hydrodynamic transformer in which a turbine coupled directly to the screw shaft. The arrangement is such that the screw shaft will rotate at a much less rate of speed than the engines, and provision is also made for reversing its direction of rotation.

"The experience which will be obtained from these four applications of the Internal Combustion Engine is being looked forward to with great interest and will provide data of extreme value.

"During the past year Rules have been adopted by the Society for the Survey of Internal Combustion Engines using petrol or paraffin fuel; and whilst the Committee realize that they must look forward to modifications and developments in these Rules as experience shows to be necessary; it is gratifying to know that the Rules have been received with general approval as very fairly meeting the requirements of the present time.

"Similar Rules applicable to the various types of Diesel Engines are under consideration."

An important change in the constitution of the governing body of this Society (the "father" of Classification Registries) has just been decided upon, which will be of much interest to the shipping community. The deci-

sion in question, which has not yet been carried into effect, is to give direct representation to Shipbuilders and Engineers.

The Society, which, we may remind our readers, was established on its present basis so long ago as 1834, has up to the present been under the control of a Committee composed of Shipowners, Underwriters, and Merchants elected by public bodies in London and the other great shipping ports of the United Kingdom. In those earliest days of the survey and classification of shipping, it was thought with some reason that a Committee so composed was fully representative of all the interests concerned. The rapid growth of great shipbuilding yards and engineering works, forming as they have done what are practically universities of naval architecture and marine engineering, introduced, however, a new factor in the world of shipping, and the Committee felt that the usefulness of the Society would be greatly enhanced if the scientific knowledge and practical experience which had contributed so largely to the building up of these enterprises could be enlisted in its service. Accordingly, in 1890, a Consultative Committee was formed, elected by the principal British technical institutions, of gentlemen whose ability and attainments entitle them to be ranked among the foremost authorities on everything pertaining to the technical side of the Society's work.

Mr. Devitt, the Chairman of Lloyd's Register, in his speech at a recent meeting, referred to the valuable work which the Technical Committee, thus brought into existence, had done for the Society. Since its formation, it had considered and reported upon every proposal for the various amendments which had been made in the Society's Rules, and not one of these alterations had been carried into effect without first receiving its approval. He wished to express on behalf of the General Committee their appreciation of the high value of the services rendered in this way by the Members of the Technical Committee, particularly in the consideration of the Society's new Rules which were published in July, 1909, and embodied the results of the most advanced theory and practice in shipbuilding and marine engineering. The general approval accorded to these Rules was sufficiently evidenced by the fact that since their introduction the plans of over a thousand vessels, amounting to 2½ million tons of shipping, had been submitted and passed with a view to the classification of the vessels in Lloyd's Register. The Committee had recently given their earnest consideration to the question of a more direct representation of the shipbuilding and engineering interests, and he was pleased to say that a definite conclusion on the subject would be shortly arrived at.

The decision thus foreshadowed by Mr. Devitt was come to at a Meeting of the Committee on the 15th instant.

The world-wide operations of Lloyd's Register, which has placed the hall-mark of its classification on nearly 21 million tons of the shipping now in existence, of which over 7½ million tons represent foreign ships, render it of the highest importance that the governing body of the Society should be representative of every interest and of the latest progress in the mercantile marine world. It is therefore matter for congratulation that it has, in this decision to broaden its base, furnished fresh evidence of the large and catholic policy which has enabled it to render in the past such valuable services to the shipping community.

President Godfrey's Address Before the Shanghai Society of Engineers and Architects

"I think it is certain that the change will come sooner or later—I mean that the British and American Governments will be compelled to legislate for revision of their systems of Measures and Weights, and fall in line with other nations.

"In a cosmopolitan community like ours in Shanghai, with a population of seventeen of nationalities other than Chinese, it should not be so difficult to introduce the change, particularly as the greater number of them

already work on the Metric System. It is not really a difficult matter to bring oneself to think and work in metrics concurrently with our own ponderous systems of measures and weights, and once one gets into the Metric System, he will be only too glad to forget all about the others.

"The question of currency and coinage is perhaps somewhat outside our province, although standards of measure and weight have considerable bearing thereon."

With the above striking paragraphs, Chas. Henry Godfrey, Assoc. M. Inst. C. E., Municipal Engineer and Surveyor of Shanghai, concluded an able address before the Shanghai Society of Engineers and Architects in November, when Mr. Godfrey was elected president of the society. They closed an intelligent discussion of the desirability of adopting the metric system of weights and measures in Shanghai, in which he pointed out the advantages of the decimal system and the necessity of proceeding slowly and intelligently. In this regard he said:

"Changes such as I refer to cannot be brought about in a day nor a year; they must be brought about in the first place by a gradual, very gradual, means working up to time when with the least possible inconvenience the final step may be taken." Seeking a simile to more effectually demonstrate his point, Mr. Godfrey quoted from the memorandum of Chief Engineer Cole, of the Mutual Telephone Co., covering the transfer of the local exchange from one building to another involving service to 4,400 subscribers which necessitated months of preparation and organization to effect with the minimum of inconvenience. For a time all the lines were connected to the two switchboards, the old and the new and when the hour arrived to take up service at the new exchange, the lines were gradually disconnected in the street from the old switchboard and the new connections made permanent. So it should be in superseding the old British and American standards by the more modern and convenient metric scale.

Referring to the growth of sentiment favoring concessions in Great Britain, Mr. Godfrey mentioned that Kynochs of Birmingham was now prepared to execute orders in either British or International Standard Measures. The speaker made reference to the attitude of China towards the ultimate adoption of the metric system and said "We know that reforms in China are not quickly brought about, but it does not follow that on this account, if we are satisfied that the adoption by China of the International standards would be of general benefit, we should not do what we can in securing their adoption".

After giving examples of simple subtraction covering a difference of one inch in lineal and square measure with its cumbersome time consuming process, and comparing them with a similar example using Chinese Land Measure worked on decimal lines, he said:

"Now, bearing these examples in mind, I think we may ask ourselves whether British and Americans here or elsewhere are not lagging behind on at least one point when we should be setting an example to China generally.

"Are we to continue in our old fashioned methods and to try to convince the Chinese that our standards are right, or are we to stand by and see China give us a lead in adopting the standards of other countries? If China is blind to reform it cannot be led by those who are equally or more so, and I leave it a question for future discussion as to whether Great Britain and America should not join hands with the advocates of the Metric System, when the question comes to be taken up, as there is every prospect that it will be in the near future. As a local paper said recently—'It would be a grim piece of humour if China were to wake up and set Great Britain and the United States an example in this regard.' As far as we in Shanghai are concerned I think that a great deal can be done. We don't know what we can do till we try. I can quote at least one great engineering firm, Kynochs in Birmingham, which is prepared to execute orders in either British or International Standard Measures. If this can be done in Birmingham, the workshop of the world—perhaps as conservative a town as may be found in England, at any rate as far as politics are concerned—it can be done in Shanghai where we have people from almost every country under the sun, and with the exception of Great Britain, America and to a certain extent Russia—brought up to deal in decimal and metric units. Lord Kelvin said that he could not get through his laboratory work if he had to deal with British

units, and I do not hesitate to say that most of our greatest scientists, if not all, will endorse his views."

He quoted from the resolutions of the Federation of Master Cotton Spinners Association published in the *North China Daily News* to show how the desirability of the decimal system appealed to that body. In effect the resolution provided that in quoting prices all interested in cotton transactions be urged to express all fractions of a penny in hundredths instead of vulgar fractions and that on and after a certain date no contracts were to be expressed in tons, hundredweights and quarters but in 100 lbs. or multiples thereof.

Mr. Godfrey also made a strong appeal to the members for their active interest in providing technical and professional education and especially having reference to engineering and architecture in Shanghai. He reviewed the experience of young men starting on an Eastern career and the lack of facilities to keep from growing rusty after he has added years of apprenticeship to his theoretical training. Of his position with regard to this question, we quote:

"An engineer or an architect must always be a student to keep abreast of the times; it is difficult enough at home but it is infinitely more so in the East. At home, to a certain extent, one may unconsciously be acquiring information on new problems and methods from being brought into every day contact with men who have fresh knowledge to impart, the daily press, the best technical magazines, and the latest works on special subjects can be consulted free. Conditions in the East are very different. We have to make the best of our own company and to take advantage of whatever technical information we can gather from papers to which we subscribe ourselves, or which we can borrow from others. I do not mean to say that, as a rule, we are groping along in serious ignorance of the march of events, but I do say, and I say it emphatically, that there is room for more concerted action in the matter of keeping ourselves up-to-date.

"At the present time serious efforts are

being put forth to establish two new Universities in the East, one at Hongkong and another at Hankow. In advocating the Hongkong University scheme Sir Frederick Lugard said that it will be kept free from the baneful influence of Chinese officialdom, and the University curriculum will be carried on in the English language. On the other hand, Lord William Cecil's scheme for the establishment of a University for Central China provides that the Chinese (mandarin) language is to be adopted. The main difference is that one university will be a secular one and the other unsecular. This, however, has nothing to do with my address this evening. I only wish to refer to the technical—the engineering and architectural side of the question. Assuming that both these Universities will become accomplished facts in a very short time—as we must all hope they will—we in Shanghai will have to see to it that the magnetising influence of two such institutions does not jeopardise our position here.

"The recent discussion on these two new University schemes in the East leads one to suggest that Shanghai, situated as it is at about even distances from either, and moreover at the very gate of the Chinese Empire, would not be the natural site for a technical school, physical laboratory and technical library. I make the suggestion for what it may be considered to be worth, but I think it is one which might be taken up by some of the engineering companies and firms in Shanghai."

Mr. Godfrey's presidential address marked the conclusion of the tenth milestone of the society which had developed from an initial membership of 40 in 1901 to 143 in 1910. In assuming the chair for the evening President Godfrey reviewed the history of the Society and pointed out that its success was due to the interest taken by its members in the contribution and discussion of papers of very high merit and he hoped that this interest would continue. Throughout his address, great interest was taken by the members and general appreciation of the importance of the subjects dealt with, was manifest.

The Present Status of Mining in the Philippines

By RUSSEL Y. HANLON*, E.M.C.E.

So far, in the development of the dredging industry in the Philippine Islands, only two districts have been exploited to any extent, namely: the Paracale District on the South-East coast of the island of Luzon, and the Nueva Ecija about 80 miles North and to the East of Manila.

In the Paracale District dredging has been carried on in a desultory fashion for the past four years, first with a New Zealand dredge of doubtful age and antiquated design, and later with two New Zealand and one Risdon dredge. The first dredge from New Zealand was renewed within the past year.

The returns from these machines to date have not been satisfactory mainly due to the fact that the machines were not designed to handle ground of the character upon which they have been working, but also to the fact that more attention has been paid to the purely mechanical part of dredging than to the metallurgic problems involved.

At present only one of these dredges is using mercury in the sluices and this improvement was instituted but very recently. Another dredge is using one large sluice directly from the bucket hopper and relies solely upon the water flowing through the sluice to break up the clay in the deposit and to save the values. As a result, the clay carries off practically all the fine gold and an unwarranted percentage of the remainder. The actual extraction upon this dredge probably does not exceed 50%. Upon the dredge operating at the mouth of the Paracale River, a very fair system of sluices is in vogue, but this ground has an overburden of from 20 to 30 feet of sticky loam and vegetable decomposition. With a headline dredge it is practically impossible to avoid mixing this super-soil with the bottom pay gravel, con-

sequently, a large proportion of the salvable gold is carried into the tailings.

All of these dredges are equipped with loose connected or link bucket-lines which detracts at least 30% from their digging capacity and possess no advantage in ground of the character found in that district. The Paracale District should have large capacity, $7\frac{1}{2}$ or $8\frac{1}{2}$ cubic foot dredges, equipped with spuds in order that the top strata might be run through independent of the lower gold bearing gravels. Further more, the various interests at present engaged, or about to engage, in dredging in the district should consolidate their holdings and operate under one head, thus effecting a large saving in operating cost and a central machine shop and foundry could be erected to cover the entire field of some 1500 acres.

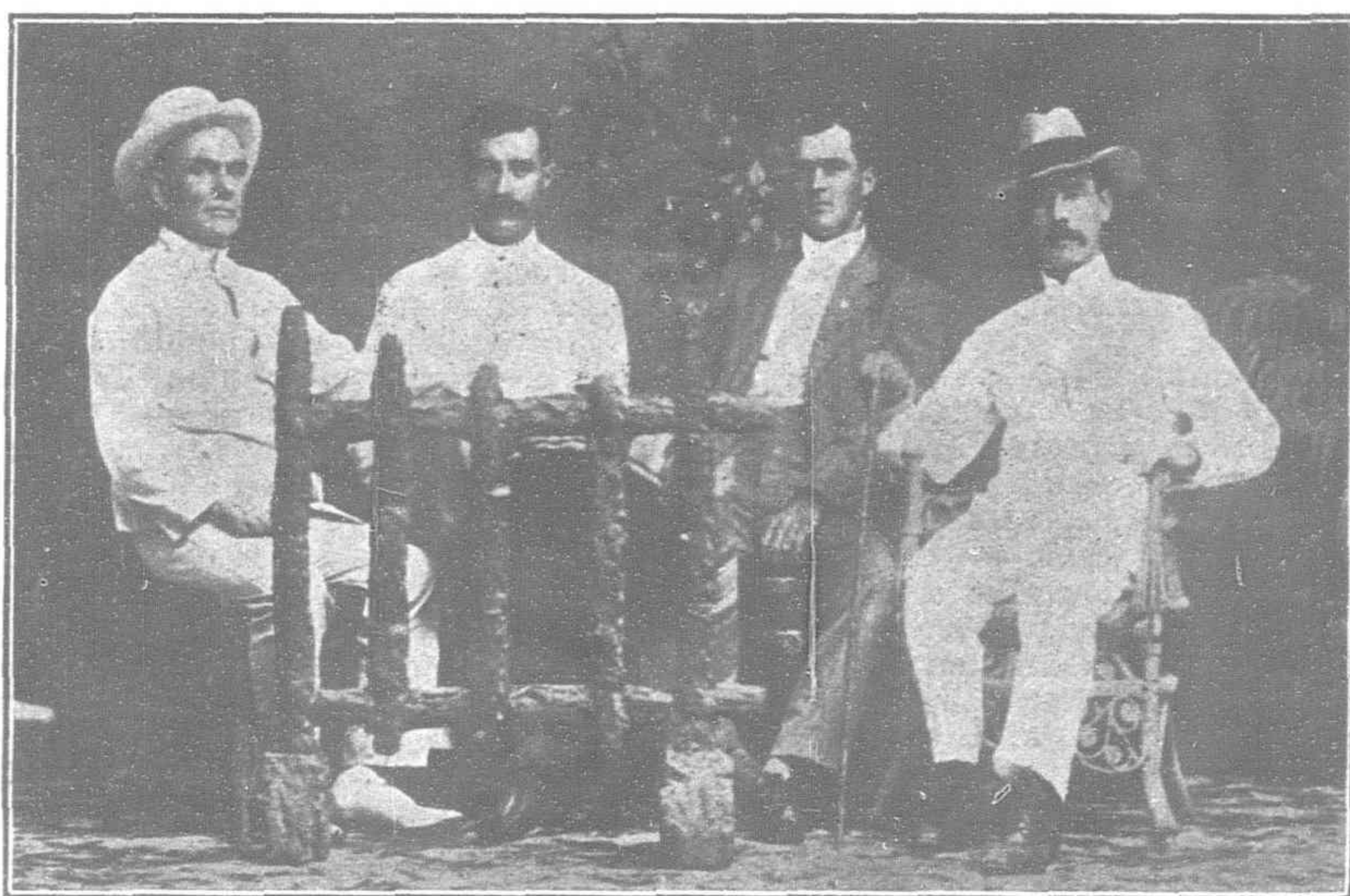
A large portion of the alluvial deposit is covered with a thick growth of manglar timber which far from detracting from the value of the property, I should consider an asset as the wood when dried makes excellent fuel and for this purpose would more than cover the cost of clearing it from the land. The disadvantages of the district are poor transportation facilities, distance from any large base of supplies, and clay or guluto in the top strata. The first two of these could be greatly alleviated by the amalgamation above suggested and the last named may be greatly nullified by designing machinery to fit the ground under consideration. Another and an important phase of the situation in retarding the development of Paracale District has been the near sighted policy of the claim holders in refusing to grant to capital its proper share in the ground. In these days it is difficult to induce capital to invest in dredging propositions in remote places unless a concession of at least 75% of the property is vested in the people furnishing the capital. In only one or two instances has such a concession been made by ground holders in the district.

* Graduate of Yale University, class '01; actively identified with the mining industry since graduation on the Pacific Coast and later with the Oriental Consolidated and other mining interests in Korea.

However, a consolidation scheme is on foot which bids fair to rectify all present and past mistakes and put the district on its proper level as a successful dredging field, as the main factor in dredging, the gold itself, is undoubtedly there in paying quantities.

The Nueva Ecija District is in the formative state at present, but possesses two of the most important characteristics necessary to successful dredging of low grade deposits, i. e., good transportation facilities and excellent hydro-electric sites. Properly exploited and managed ground containing 15 cents gold per cubic yard should yield a good dividend and if the lower gravel afford as good results as the surface indications would lead one to believe, a field of several thousand acres should be developed in a few years' time. Some parts of this district have shown good returns, but as compared to the total alluvial area, the district remains practically a virgin field.

Lurid exploitation and moves bordering upon sharp practice sometimes termed "high finance" have also been responsible to a certain extent in retarding the development of the mining interests in the islands. Certain companies have been formed locally upon claims or groups of claims almost, or entirely, undeveloped and the funds derived from selling such stock have been frittered away in futile, aimless work, often by men who know no more in regard to the nature of the work that they were undertaking than a babe in arms. I have in mind one such company recently formed, the officers and directors in which, presumably acting absolutely in good faith towards the stockholders and the general public, have a man upon the properties, who incidentally is the owner of some of the claims, which are spread over an area of some 200 square miles, supervising the expenditure of the funds, who is no more capable of undertaking such a piece



FROM LEFT TO RIGHT: MR. BAGG, REPRESENTING AUSTRALIAN CAPITAL; MR. BRUCE, OPERATOR PARACALE DREDGE; MR. RUSSEL V. HANLON, MINING ENGINEER, AND MR. JAMES PEARSON, PROMINENT NEW ZEALAND MINING MAN INTERESTED IN PARACALE.

The gravel is a good clean wash, free from clay or cementing material over a soft, easily dug bedrock and practically free from large boulders.

A New Zealand company has acquired an option upon about 1500 acres and is about to begin systematic prospecting but, to date, this is the only company that has commenced development along consistent lines. If the values are proven to be in the deposit, it will be an ideal district for large dredges of the Fulsom California type operated by electricity, and is capable of being worked at a very low per cubic yard cost.

More or less preliminary prospecting is being done in several parts of the islands, notably on the East coast of Luzon, on Mindoro, and Mindanao, but as yet, very little data is available upon which to base an opinion. There are apparently many streams in the islands containing gold, but it remains to be proven whether they are dredgable or merely small shallow deposits.

All branches of mining in the Philippines are of course handicapped by reason of their distance from the source of capital available for their development, the local supply for this class of work being necessarily comparatively small, but no good property need remain long idle if the owners will meet capital half way and refrain from placing a valuation on their property far in excess of the ore in sight or the profits to be derived from the land. Heretofore, immediately upon the arrival of an engineer representing capital, prices of options, participations, etc., have soared to high heavens and the engineer has returned to his principals thoroughly disgusted, and with his hammer out against the whole archipelago.

of work than I am of operating an aeroplane. Consequently, the funds are being scattered to the four winds instead of being expended in work concentrated upon one or two promising properties.

Apparently, it has never occurred to the majority of promoting and developing companies that the cheapest and wisest course is to employ a competent engineer to report upon their holdings and advise as to the best methods, if any, to be employed in developing the claims and in directing the disbursements.

There is undoubtedly a future for mining here. The present stagnation and the failures of the past have been due principally to one or all of the causes enumerated above but several companies are, and have been operating upon correct lines, and these certainly deserve credit. Others are gradually falling in line, and the next year or two should find several of them paying substantial dividends. The experience and precedents of the past few years of building mills upon a mere prospect and dredges upon untested ground, have proven so costly that few are likely to tempt Providence to such an extent in the future. Fancy exploitation will die a natural death as soon as people learn that there are reputable businesslike companies operating in which they may invest their money.

Many are sceptical in regard to the political situation in the archipelago, but from what I can gather from reputable sources there is not the remotest possibility of any change for decades and every dollar of outside capital invested strengthens the present status.

REVIEWS.

The International Relations of the Chinese Empire, by Hosea Ballou Morse, issued by Messrs. Kelly and Walsh, Limited, has reached our desk. This volume may be said to be the most complete review of Chinese international relations during the period intervening between 1834 and 1856, generally overlooked by casual writers who have been inclined to devote space to the more striking events. Uncovering his motive for the exhaustive work, the author explains:

"Writers of all classes have been impelled to make much of salient and picturesque events, such as the imprisonment of the foreign merchants and the seizure of the opium in 1839, and the episode of the *Jorcha Arrow* in 1856, and to make but passing reference to humdrum events of the intervening years."

The author's special purpose therefore is to cover all the events of importance during this period in a comprehensive manner, and this he has done in twenty-six chapters with citations from official records, and with appendices covering negotiations and correspondence, etc., between the representatives of foreign powers and the Chinese Government. Maps and illustrations are included. This volume will be welcomed by every student of Chinese history.

Practical Stamp Mining and Amalgamation, by H. W. MacFarren, has been issued from the press of the Mining and Scientific Press, San Francisco, and the Mining Magazine, London, and the purpose of the writer is to present the result of his own practical experiences, together with that of other millmen and metallurgists in a wide field of activity. The volume comprises ten chapters of most valuable information to the practical mining man and should receive a warm welcome among those active in the industry. Price \$2.00. Postpaid.

Testing for Metallurgical Purposes, by James A. Barr, from the presses of the Mining and Scientific Press, San Francisco, and the Mining Magazine, London, is a compilation of notes on experiments made in the laboratories of the Michigan University, and covers a wide field of experience in this line of work. It will be found of practical value not only to the student but to the mining engineer. Price \$2.00. Postpaid.

THE TAAL DISASTER

(Continued from page 313)

G and H of Centeno's description have been largely obliterated by erosion. The active cone which was described as being about 15 meters high, quite perfect and the point of most activity, giving off great masses of water and vapor, is now broken down, but there are some vents in the remnants of its walls. The inactive small cone F of his description has disappeared.

In 1904 Taal was reported to be in eruption and many people visited it then and photographed it. Dean C. Worcester, Secretary of the Interior, has some good negatives taken during this active period and they furnish a better idea than descriptions of what took place during July, which, stated briefly, was as follows.

"Besides giving off a greater amount of steam and sulphurous vapors at all points where such actions had usually occurred, the new crater formed in 1904 sent up great columns of vapor and intermittently ejected mud and stones to a height of at least 150 meters. The activity of this crater soon diminished and in December, 1905, its floor was covered by a boiling lake. In March, 1907, the lake had disappeared. The crater now contains some hot mud spots which are in a state of very moderate agitation and give off but little steam and gas. The temporary red lake in the southeastern part of the main crater floor seems to have first been mentioned during the eruption of 1904."

"*Historic eruptions of Taal.*—The following summary of the historic eruptions of Taal is taken from Centeno's monograph published in 1882. At the time of the Spanish conquest, according to various ancient documents, the place of activity of Taal (or perhaps better, a place of activity) was on the north-western point of the island in a small cone, Bininting Malaqui. There are no records of eruption from it, but in 1880, when it was visited by Centeno there were some small vents of vapor and gas in its crater and one on the southeast border of its rim. There are now some similar phenomena at this cone, but of diminished importance.

"In 1680 Taal is described as having occasional eruptions which destroyed many fields on the island. At that time there were two vents, one of sulphur and the other of green water. They are interpreted as being the yellow and green lakes which exist to-day.

"In 1709 1715 eruptions produced some damage on the island.

"In 1716 there was an eruption accompanied by earthquakes, and a disturbance in Taal Lake between the island and Mount Macalod. The waters of the lake were so agitated that waves cut away the outer shore of the lake, injuring the *convento* at Taal which was then situated on its border. There are some sunken rocks in the lake between the volcano and Mount Macalod, but whether or not they originated at the time of this eruption is not known.

"In 1731 there was an eruption in Taal Lake east of the island, forming a new island the larger part of which subsided, leaving remnants which are known as Bubuing and Napayong Islands.

"In 1749 a violent eruption began on August 6 and continued about three weeks. Some settlements near the shores of the lake suffered damage from the seismic disturbances and falling ashes. There were no flows of lava, but incandescent stones were thrown out. Eruptions took place in the lake to the north and east of the island.

"In 1754 the greatest historical eruption took place, lasting from May until December. The towns of Sala, Lipa, Tanauan and Taal, then on the border of the lake, were destroyed, and Balayan, Bauan, Batangas, Rosario, Santo Tomas and San Pablo suffered great disasters. The rain of scoria and ashes extended over a much larger area. The surface of the lake was covered with patches of floating pumice and ashes. Incandescent stones were thrown out and fell into the lake. There were, however, no lava flows. Heavy rains descended and the barrio of Balili near Sala was covered with a shower of mud.

"In 1808 there were eruptions of slight intensity which began in February and continued until the end of April, but no damage was done to the inhabitants who, after the disaster of 1749, had returned to settle on the margin of the lake.

"The eruption of 1904 which has already been described was unimportant. It is the first one of which photographs have been published."

* In the article by R. F. Bacon, *Philippine Journal of Science*, Sec. A. (1907) 2, 115, on the "Crater Lakes of Taal Volcano," the yellow lake of Centeno's description is called the boiling crater lake. A temporary lake southeast of the yellow lake is referred to as the yellow lake. Evidently the colors of the lakes vary from time to time.

CONTRACTING NEWS

CONTRACTS AWARDED.—Municipality of Shanghai.—Oil supply 1911.—The following tenders were accepted:

Asiatic Petroleum Co., Ltd.	
Liquid fuel	at Tl. 0.08 $\frac{1}{4}$ per gal.
Petrol	" 0.50 "
Heavy Petroleum	" 0.11 "
Lubricating Oil for steam rollers	" 0.55 "
Carlowitz & Co., agents, Lubricating Oil Import Co., Ltd.	

Lubricating Oil, light machines	at Tl. 0.32 per gal.
Lubricating Oil, motor cars A	" 1.05 "
Lubricating Oil, motor cars B	" 1.20 "
Heavy mineral axle grease	" 0.4 $\frac{1}{2}$ per lb.

R. M. Noblston.	
Cylinder oil for quarry engines	at Tl. 0.68 per gal.
Crusher oil for quarry engines	" 0.68 "

Vacuum Oil Company.	
Leather oil for harness	at Tl. 0.72 per gal.
Axle grease for stone crushers	" 0.07 $\frac{1}{2}$ per lb.
Lubricating compound for motor cars	" 0.14 $\frac{1}{2}$ "

Standard Oil Company of New York.	
Kerosene oil "Devoe's Brilliant"	at Tls. 2.10 per case
Bulk oil	at Tls. 1.50 per 10 gal.
* less \$0.025 per gallon rebate and \$0.75 refund on 10 gallon drums.	
† less 10 per cent discount.	

BIDS OPENED—MUNICIPALITY OF MANILA.—Construction Sewer System Luneta Extension. The following bids were opened:

The Manila Construction Company, P53,000; Delmar Smith Clinton, P59,000; The Atlantic Gulf and Pacific Company, P57,000. The work to be completed within six months.

PROPOSALS INVITED

MUNICIPALITY OF SHANGHAI.—(a) 21 MILES VULCANIZED COPPER CABLE, (b) 30 MILES BARE COPPER CABLE.—Specifications available at office of the Electrical Engineer Electricity Works, Shanghai.—Tenders must be submitted by noon, March 9, 1911.

DEPARTMENT OF FINANCE, BANGKOK, SIAM.—For purchase of 360 tons of demonetized bronze coins of Siam chiefly atts and two-att pieces, 85 grains and 173 grains respectively. Also comprises proportion of half-att and four att pieces. All coins approximately 95% copper, 4% tin and 1% zinc. Proposal must be expressed in pounds sterling and guarantee that coins must be defaced, cut, chipped or melted by successful bidder. Bids must be addressed Minister of Finance, Bangkok, and marked "Tenders for purchase of old bronze coins" and submitted on or before April 18, 1911.

Sealed proposals in triplicate, subject to the usual conditions, will be received at the office of the Chief Supply Officer, Bureau of Constabulary, Old Oriente Building, Manila, until ten a. m., April 10, 1911, and then opened in the presence of attending bidders, for furnishing the Bureau of Constabulary 35,000 pairs of cotton socks.

Blank proposals may be obtained at the

office of the Property Officer, Bureau of Constabulary, Old Oriente Building, Manila.

PROPOSALS FOR FROZEN FRESH BEEF AND MUTTON.—Headquarters Philippines Division Office Chief Commissary, Manila, P. I. December 31, 1910.—Sealed proposals, in triplicate, subject to usual conditions, will be received at this office until 11 o'clock a. m. April 5, 1911, at which time and place they will be opened in the presence of attending bidders, for furnishing and delivering about six million six hundred thousand (6,600,000) pounds of frozen fresh beef and two hundred thousand (200,000) pounds of frozen fresh mutton to the Subsistence Department, U. S. Army, at Manila, P. I., during year ending June 30, 1912. The contractor will be required to pay all customs duties. The United States reserves the right to decrease the amount advertised for, upon reasonable notice to the contractor, or to increase the amount with his consent. Each proposal must be accompanied with a bidder's guaranty in the amount of \$20,000 or with certified check for that sum on a bank of approved standing in Manila. The bidder to whom the contract is awarded will be required to give bond. Blanks and full information furnished on application to this office or to nearest United States Consul. Envelopes containing proposals must be marked: "Proposals for frozen fresh beef and mutton for fiscal year 1912, to be opened April 5, 1911," and addressed to the undersigned.—D. L. BRAINARD, Lieut. Col., D. C. G., U. S. Army, Chief Commissary.

BUREAU OF CONSTABULARY.—Office of the Chief Supply Officer. Sealed proposals in triplicate, subject to the usual conditions will be received at the office of the Chief Supply Officer, Bureau of Constabulary, Old Oriente Building, Manila, until ten a. m., May 15, 1911, and then opened in the presence of attending bidders, for furnishing the Bureau of Constabulary 2,000 woolen blankets.

Blank proposals and information as to size and weight of blanket may be obtained at the office of the Property Officer, Bureau of Constabulary, Old Oriente Building, Manila.

PROPOSALS FOR MINERAL OIL.—Headquarters Philippines Division, Office of Chief Quartermaster, Manila, P. I., February 10, 1911. Sealed proposals, in triplicate, subject to the usual conditions, for furnishing 365,000 gallons Mineral Oil to the Quartermaster's Department, U. S. Army, during the fiscal year commencing July 1st, 1911, and ending June 30th, 1912, will be received here until 11:00 a. m. March 10th, 1911, and then publicly opened. Information and blank forms furnished upon application. F. G. Hodgson, Assistant Quartermaster General, U. S. Army, Chief Quartermaster.

PROPOSALS FOR COAL.—Headquarters Philippines Division, Office of Chief Quartermaster, Manila, P. I., January 7, 1911. Sealed proposals, in triplicate, subject to the usual conditions, for furnishing approximately 65,000 tons of coal to the Quartermaster's Department, U. S. Army, during the Fiscal Year 1912, will be received here until 11:00 A. M. May 8, 1911, and then opened. Information and blank forms furnished upon application. F. G. HODGSON, Assistant Quartermaster General, U. S. Army, Chief Quartermaster.

PHILIPPINE MINING NEWS

PROPOSED AMENDMENTS TO PHILIPPINE MINING LAW.—General Edwards, Chief of the Bureau of Insular Affairs, in his report to the Secretary of War, makes the following recommendation:

"The organic act of July 1, 1902, provides, "That no holder shall be entitled to hold in his, its, or their own name or in the name

of any other person, corporation, or association more than one mineral claim on the same vein or lode."

"The Philippine Commission has repeatedly recommended amendment of this provision, and several bills for this purpose, approved by the Secretary of War, have been introduced at various times in Congress without reaching final action.

FAR EASTERN RAILWAYS

BURMA RAILWAY SUPPLIES.—Two lathes supplied by Messrs. John Lang & Sons, Ltd., a combined welding and folding machine by the J. C. Nicholson Tool Co., Ltd., and a screen shaker by the Pneumatic Engineering Appliance Co., Ltd., have been installed by the Burma Railway Co. in their shops.

WINCHOW RAILWAY ENTERPRISE.—The construction of a railway from Fung Tauen on West River, approximately fifteen miles west of Wuchow, to Sai Waan has finally been arranged. The line will be constructed by the company operating rich coal mines at Sai Waan in the Hoh Uen District.

"During the last session a bill intended to accomplish this object was introduced in the Senate almost identical with a bill introduced during the Fifty-ninth Congress. It provides that the government of the Philippine Islands may make regulations, not in conflict with the provisions of the act of July 1, 1902, as amended, governing the number of mining claims that any person, corporation, or association may locate on the same vein or lode. It also provides, under similar regulations, for granting licenses for exploration and mining for gold and other minerals in the waters of the Philippine Islands, no exclusive licenses to be granted except as to limited or prescribed areas."

"There are a number of minerals in the Philippine Islands, some of which have been found in paying quantities. There has been much prospecting, but mining is largely a speculative matter, and, as the minerals there are found mainly in the wildest and most inaccessible parts, with no railroads or highways or means of communication with the outer world, development has been discouraged rather than encouraged by the inducements offered.

"It is recommended that these amendments be enacted into law. It is believed that they will be of material benefit to the islands in the present, while properly safeguarding future interests."

BAGUIO DISTRICT.—The work of installation on the Headwaters continues and the success of this enterprise will measure the future investment of foreign capital in the development of that region. So far as can be learned, there is no reason to doubt the extent of the deposits, making a paying low grade proposition under experienced direction and economical administration. The Major Mines are in the same class as the Headwaters with respect to future promise and it will rest with those directly in charge of operations, whether these enterprises prove successful or not. In another column, Mr. Hanlon puts his finger on the weak spot in Philippine mining activity. In developing a prospect into a mine, the amount of money spent in securing qualified expert advice, is well invested in that it eliminates false estimates and failures due to inexperienced direction and haphazard pronouncements. Mine owners in the islands have ignored this great truth. The Philippines have suffered greatly from those who have posed as authorities on mines and mining and it is in such properties as the Headwaters, the Major Mines, the Bua Company and the Benguet Consolidated in Benguet and the Colorado Mining Company in Masbate, with proper direction that the mining men of the archipelago must look for confirmation of their faith in the future of the industry.

In all the reliable reports available on mineral deposits in the islands, there is not one that does not confirm the claim that rich values are to be found, and it is regrettable that with but the few instances referred to, the failures and disappointments have been due to most deplorable administration.

INDIAN RAILWAY CONSTRUCTION.—The Bengal Chamber of Commerce has addressed the government on the subject of maintaining the annual capital expenditure so that it will not fall below an aggregate of £10,000,000 and if possible increase it to £12,500,000 in conformity with the conclusions of the Indian Railway Finance Committee that convened in London in 1907-08. The Chamber points to the fact that last year the amount expended fell below £10,000,000 and much greatly needed construction was delayed. Reference is also made to the prosperous condition of lines operating and the necessity of maintaining the lines so as to keep pace with the increased demands made upon them.

Consolidation in Benguet which must be rated generally as a low grade proposition, will solve the problem of administration. This will surely come, once there is realized substantial and permanent returns in the form of dividends, from any of these properties.

THE PARACALE DISTRICT.—We understand that the proposal to develop the Paracale Extension has fallen through for the present. The tests recently made were satisfactory and while the report of the expert did not read like a circus poster, or a wild cat prospectus, it demonstrated that with proper equipment suited to conditions, from ten to twenty per cent could be realized on capital invested with economic administration. The values exceeded thirty cents gold as a fair average, although some tests were much higher and wide margin of safety allowed. We have not learned the exact reason for postponing this development, but a desire among a few interested to cover capitalize is believed to be the nigger that refuses to leave the woodpile.

NUEVA ECIJA DISTRICT.—Testing continues on the Rio Chico property and a lease is being negotiated by Australian capital covering 640 acres of placer on the Marikat River which has yet to be proved up. This district is easily available by railway and water transportation and if the values are found satisfactory will prove a desirable field for dredging.

MINDANAO PLACERS.—In Iligan and Cagayan de Misamis there is some activity and we understand that Australian capital is interested in the development of several claims on the Manalgue River in Iligan. On the Eponan in Cagayan de Misamis development work is reported progressing favorably.

BAHAY VALLEY OIL CO.—At the regular annual meeting of this company which is interested in the Tayabas Oil Fields the following directors were chosen:

M. F. Loewenstein, Mauro Prieto, E. E. White, E. B. Bruce, L. E. Holden and R. C. Hosty.

THE GUAMAS GROUP.—After all the splurge about the new dredge being ordered in the United States for this rich property, we have been informed that the option given the exploration company has been forfeited.

THE UMARAI RIVER PLACER MINING SYNDICATE.—The first placer mining enterprise to enter the field on the East Coast of Luzon, lying along Dagalang Bay, has taken up claims on the Umarai River owned by an association the members of which are R. W. Squires, C. D. Squires, W. S. Boston, H. Hardman, L. E. Perske and Theodoro Gubaydoff. The company is capitalized for £150,000 subscribed by European and British capital with headquarters at Sydney, Australia. It is understood that a dredge will be installed by the end of the year. The tests reported cover ten claims and represent paying values.

AMERICAN LOCOMOTIVES FOR JAPAN.—The Railway Board has placed an order with the American Locomotive Co., through the Mitsui Bussan Kaisha, for 24 Pacific engines and 6 Mallet of 0-4-0 C type locomotives. The Pacific locomotives will have 18 5" by 24" cylinders with driving wheels of 63" diameter and total working weight of 133,000 pounds. The Mallet cylinders will be 15 5" and 24 5" by 24" with 63" drivers and a total working weight of 122,000 pounds.

FRENCH RAILWAY ACTIVITY.—Peking advices are to the effect that prominent French merchants have urged their government to promote the construction of an extension of the French line to Yunnan to connect with Szechuan for the purpose of tapping the Yangtze region, together with a line from Lungchow via Nanning to Wuchow to secure the traffic along the West River. It is also proposed that the construction of Yunnan Kueichon line should be built either by French or Chinese capital.

This activity is due to a desire to develop French interests and at the same time encourage traffic for the Yunnan Railway. Then there are the projects connecting Siam with Saigon which will connect with the Peninsular Railway. What measure of success will mark these extensive programs is difficult at present to determine.

THE FUKIEN RAILWAY.—This company which operates over twelve miles of its line connecting Sing Su and Shih Bee on the mainland and serving Amoy by means of a ferry have been giving a service of three trains daily each way since January 1.

JOHORE STATE RAILWAY.—The estimates of revenue for 1911 amount to \$220,000 (Str. Cur.) compared with \$159,444 for 1910 and \$90,285 for 1909. The estimated expenditure for 1911 will reach \$432,482 including \$101,171 under the head of personal emoluments, other charges \$330,088, and \$45,730 for capital account. The officials anticipate an increase of 50% in traffic revenue this year and expect in a few years to put in on a paying basis.

SOUTH MANCHURIA RAILWAY LOAN.—This loan drawing 4.5% for £6,000,000 was successfully floated in London last month. The issue price was 98 and the bonds are redeemable in 25 years. Subscriptions were received by the Yokohama Specie Bank, the Hongkong & Shanghai Banking Corporation. It will be remembered that the company was organized with a capital of 200,000,000 yen, half of which represented the value of the railway as estimated by the Japanese Government and 20,000,000 yen was paid up and power to issue 80,000,000 in bonds conferred. This issue was made successfully, but an additional issue was considered necessary to provide for extensions and construction to keep pace with increased traffic not originally contemplated. The loan for 60,000,000 yen was authorized last year and we learn that of the proceeds 20,000,000 yen will be used to retire debentures and the 40,000,000 yen in doubling the line from Dairen to Sukiatun, in completing the Antung-Mukden reconstruction, in further developing the Tuchun mines and in completing the Dairen harbor improvement program.

THE TOKYO RAILWAY CO.—The following is the statement of the directors approved at the recent half yearly meeting:

	yen.
Net profits for the term.....	1,731,405
Balance brought over from previous term.....	23,324
Total.....	1,754,529
To reserve.....	86,570
To special reserve.....	88,430
Bonus to officials.....	35,000
Dividend to shareholders (7% per annum).....	1,522,500
Balance carried forward.....	22,229

MUKDEN-ANTUNG CONSTRUCTION.—The railhead on the standard gauge is advancing rapidly from the Mukden and was expected to reach Penchiu, January 15. Tunnel work at Black Mine Pass has progressed to a point where the light line was transferred so as to run through it, January 1, thus saving three miles.

SHANGHAI-NANKING RAILWAY SHOPS.—The contract for the construction of sixteen passenger cars for the Tientsin-Pukow lines has been secured by this company. The order covers three first class, six second class, and ten third class.

TIENSIN-PUKOW RAILWAY (Southern Section).—With little ostentation, the completion of temporary construction was announced January 20 and second and third class passenger traffic over the line to Linhanikuan, a distance of 100 miles, was begun. Trains are also running from the North end of the section from Tsinaifu to Talianfu. The railhead from the south is being pushed forward beyond Hsuehoufo.

SUPPLY OF INDIAN RAILWAY MATERIAL.—According to *Railway and Shipping*, the Motherwell Bridge Company, Limited, North Britain, has an order from the South Indian Railway Company for the supply of bridge materials and bracing frames and the Workington Steel and Iron Company, Limited, for the supply of a large quantity of steel rails and steel fishplates. The Birmingham Railway Carriage and Wagon Company, Limited, have a large order from the South Indian Railway Company for the supply of spare buffer parts for rolling-stock and the Consolidated Brake and Engineering Company, Limited, Spencer House, London, E. C., for the supply of brake gear. Messrs. John Spencer and Sons, Limited, Newburn Steel Works, Newcastle-on Tyne, had a large order from the same railway for the supply of laminated bearing springs and Messrs. G. Salter and Company, Limited, for the supply of helical and volute springs for rolling stock. Messrs. Jessop and Company, Calcutta, have got the order of the North-Western State Railway for the supply of the iron and steel work which is required for the construction of the erecting shop in the new Locomotive Workshops at Lahore. Messrs. Alfred Herbert, Limited, Coventry, England, have an order from the Bengal-Nagpur Railway for the supply of a workshop sensitive radial drill and Messrs. Joshua Buckton and Company, Limited, Leeds, have a contract for the supply of a hydraulic wheel press. The Vacuum Brake Company, Limited, London, have an order from the East Indian Railway Company for the supply of five hundred sets of vacuum brake fittings and rigging, delivery to be completed by next month.

HUNAN RAILWAY CONSTRUCTION.—The section between Changsa and Chuchow is reported completed and passenger traffic will be inaugurated at an early date.

F. M. S. RAILWAY CHANGES.—The *Perak Pioneer* announces that the Division in charge of the Divisional Engineer North, F. M. S. Railway, has been extended from Tanjong Malin to Central Workshops including Batu Caves Branch Line, with effect from 1st January, 1911. This gives Mr. Frank Mills an additional mileage of about 57 miles. His two assistants, the District Railway Engineers, who are stationed at Taiping and Ipoh, Messrs. Johnson and Stephenson respectively, have also had their districts extended.

The Division of Mr. D. J. Highet, the Engineer in charge of the Southern Division, has also been considerably increased. The Government has not overlooked the fact that their work and responsibility have thereby been increased, and it has pleased the higher authorities to increase the maximum salary of their appointments by £120 per annum.

RAILWAYS CONTROLLED BY JAPAN.—Including lines in Formosa, Chosen, Manchuria

ENGINEERING, CONSTRUCTION, FINANCIAL, AND COMMERCIAL NEWS

SIAMESE PALACE ILLUMINATION.—The new royal palace at Petchaburi is to be equipped with an electric light plant for illuminating the building and grounds. The contract which was let to Messrs. Howard Erskine, Ltd., is well under way.

KYUSHU HYDRO-ELECTRIC CO.—A new project is under way to utilize the waters of the Chikingo and the Yamakunig in the development of 140,000 h. p. for generating purposes and it is proposed to compete generally with the electric power plants, in Kyushu of which there are at present fifteen. The capital of the company is 8,000,000 yen. The cost of 1 h. p. has been estimated at 237 yen and the company proposes furnishing 10 c. p. lights at 50 sen per mo. as against 1.50 yen by the old companies.

BRITISH ALL RED WIRELESS.—The following estimates are made available by Consul General James T. Dr. Bois of Singapore:

"The wireless stations necessary to connect the British possessions are only 20 in all. They would cost \$5,000,000 to build and about \$1,000,000 annually to operate.

"Stations would be required at Montreal, Glace Bay, and Vancouver, Canada; Hongkong; Singapore; Perth, Adelaide, and Sydney, Australia; Wellington, New Zealand; Gibraltar; Malta; Alexandria, Egypt; Aden; Bombay; Colombo; Mombasa, Durban, Cape Town, Bathurst, Sierra Leone, and St. Helena, Africa.

"The connections required would be: (1) Montreal, Canada, to Sydney, Australia, as follows: Montreal to Glace Bay, thence to Vancouver, Hongkong, Singapore, Perth, Adelaide, and Sydney. (2) England to Wellington, as follows: England to Gibraltar, thence to Malta, Alexandria, Aden, Bombay, Colombo, Singapore, Perth, Adelaide, Sydney, and Wellington. (3) England to China, by route 2 to Singapore, thence to Hongkong. (4) England to Africa, as follows: England to Gibraltar, thence to Aden, Mombasa, Durban, and Cape Town; or, England to Bathurst, thence to Sierra Leone, St. Helena, and Cape Town."

AVIATION WEEK IN BANGKOK.—The meeting following was postponed until the first week in February.

THE KEI HIN ELECTRIC RAILWAY.—The following is the statement of account and distribution for the half year:

	yen
Net gains.....	77,806
Balance brought over from previous term.....	899
Total.....	78,705
This was distributed as follows:—	
To reserve.....	3,891
To special reserve.....	1,945
Bonus to officials.....	2,923
Dividend to shareholders (4% per annum).....	60,700
Balance carried forward.....	446

the entire mileage is estimated at 7,000 miles approximately. In Chosen with the completion of the Seoul Wonsan and Honam lines the total expenditure there will reach 130,000,000 yen and it is the purpose to expend a similar amount before the plans proposed are completed. This will be represented by about 1200 miles of line. The reconstruction of the Seoul-Wiju line is expected completed in December this year and the bridge over the Yalu in March 1912.

SANNING RAILWAY LOAN.—This company has arranged with the Bank of Kwantung for a short loan of 300,000 Tls. at the rate of 9% per annum.

TELEFUNKEN IN THE PHILIPPINES.—Messrs. Germann & Co., local agents for this company, have erected a wireless station on the Luneta for the purpose of giving demonstrations with a view to entering into competition to instal an extensive system in the islands.

KIANGWAN AVIATION MEET.—A meeting was arranged for the first week in February at the International Race Course and special excursion trains from Shanghai were advertised.

HONGKONG AVIATION MEET ABANDONED.—The arrangement with J. C. Mars, the American aviator, for a flight at Taipoo was abandoned on account of the indisposition of the government to permit a special excursion over the railway out of which the aviator would secure a percentage. The press expresses great disappointment.

PHILIPPINE AVIATORS EXPERIMENTING.—After many discouragements the local Manila inventors are making substantial headway on their models. Some difficulty has been met in providing adequate power as the machines are of the heavier than air order.

HANKOW ELECTRIC LIGHT CO.—This company is reported to have concluded a loan of Tls. 1,200,000 with Japanese bankers.

BAGUIO HYDRO-ELECTRIC FRANCHISE.—The Philippine legislature has passed an act to provide for the granting of a franchise for the use of the waters of the Agno River in Benguet, for the generation of power for the maintenance of an electric light, heat, and power system and the supply of light, heat, and power in and to the city of Baguio. In lieu of taxes, etc., the successful bidder will be required to pay into the insular treasury a percentage of gross receipts.

BANGKOK LIGHTING.—The *Bangkok Times* announces that the Siam Electricity Co. is arranging to extend its lighting system and instal lights of 100 candle power on the main thoroughfares suspended on the poles of the trolley system. "This is a big improvement in street lighting," says the *Times*, "which has long been a reproach to Siam's capital."

WIRELESS USED BY TAAL RELIEF.—The enterprise of the U. S. Army in the Philippines was demonstrated by the establishment of wireless stations surrounding Lake Taal and connected with Fort McKinley, with field telephones, etc., under direction of the Signal Corps to keep the several U. S. Burial Corps detachments in touch with each other. It worked most effectively.

JAPAN'S TELEPHONE SYSTEM.—Statistics prepared by the *Chamber of Commerce Journal* of Yokohama on the 20th anniversary of the inauguration of the first telephone exchange in Japan show that over 30,000,000 yen represents the outlay of the government to date in this department with the result that 1,600 cities and towns in Japan are connected up with 126,000 subscribers. There are over 440,000 miles of wire. The annual revenue is yen 10,000,000. It is the purpose of the government to expend 18,000,000 yen during the next two years to accommodate 60,000 new applications now on file.

MANILA CARNIVAL ELECTRIC LIGHT TOWER.—There will be 48,000 lights massed on the 120 foot tower installed in the carnival grounds, Manila, besides a flash light service and illuminations covering the entire grounds and Luneta in the foreground.

AVIATION AT THE PHILIPPINE CARNIVAL.—J. C. Mars with a Curtiss biplane has arrived at Manila under contract with the Carnival Association and will make at least one flight daily during the week.

AMERICAN SUPPLIES FOR TASMANIA ELECTRIC RAILWAYS.—U. S. Consul General H. D. Baker reports that construction work on the electric tramways at Launceston, northern Tasmania, has been commenced. The $5\frac{1}{2}$ miles of rails, tie rods, fish bolts, etc., were supplied by an American firm for about \$45,000 and were brought to Tasmania by direct steamer. The tram track will mostly be a single line, one with loops. Double lines will, however, be put down in the busiest sections of the city. A British firm secured the contracts for the overhead equipment and the trucks, the cars are to be manufactured by a local firm, and the motorist each of 37 horsepower, will come from a company on the mainland of Australia. It is expected that the first section of the Launceston trams will be running early in 1911.

PUBLIC WORKS, DOCKS, WHARVES, BUILDINGS, ETC.

MANILA PORT WORKS.—The work of connecting the piers with the transport docks comprehensive system of arrastre is progressing.

PEARL HARBOR.—The naval estimates for 1911 include an item of \$2,387,000 gold for the development of Pearl Harbor, Hawaii.

NEWCHWANG HARBOR IMPROVEMENT.—The sum of Tls. 517,000 of which Tls. 200,000 will be invested in a dredger have been appropriated for this work. Increased tonnage dues and duty on exports will be levied to reimburse the government. The details of work follow:

- (1) Deepening the bar at the mouth of the Liao and otherwise improving the approach to the port, \$482,974.
- (2) Protecting Duck Island bend, \$44,000.
- (3) Improving the upper river, dredgers etc., \$150,000, running expenses annually \$28,000.

OPENING OF THE NEW SHANGHAI CLUB.—The new club rooms were officially opened January 6 by Sir Pelham Warren who laid the corner stone two years previously. The cost amounted approximately Tls. 600,000 and is without exception the most imposing club house in the Far East. It is of English renaissance design and the front is built of artificial stone with Soochow granite columns. The most imposing room is the Grand Hall approached by a broad stairway of Sicilian marble. This hall is 90 feet \times 39 with a height to the barrelled glass ceiling of 41.5 feet. The ceiling which caps the arches is supported by ionic columns. The bar on the south side is 110 feet long and 39 feet wide and panelled in oak. This room is 17.75 feet from floor to ceiling. The news room 67.5 \times 30 feet is on the north side and waiting rooms and telephone booths are on either side of the main entrance. A billiard room 75.5 \times 29.5 feet is located at the north-west corner with large open fireplaces. Then there is the Domino Room 36.25 \times 39 feet, the secretary's office behind the bar and the lavatories farther to the rear. The whole of the first floor front 102.25 \times 43.5 feet with 19 foot ceiling makes one of the most splendidly appointed dining rooms in Shanghai. Besides this main dining room there are three others on the same floor for special banquets, etc., and all are connected with the kitchen by electric elevators, telephones, etc. The library opens out of the Grand Hall on the first floor, is surrounded by a gallery, and has a reading-room 23 \times 39 feet opening out of it. Then there is the card room 46 \times 22 feet and 40 bedrooms each provided with a modern bath, etc. The fourth and top floor is set aside for the kitchen and steward's apartments. In the basement are bowling alleys, barber shop, dressing rooms, cold store rooms, heating apparatus, and wine cellars.

There are 1,000 electric lights and 100 steam radiators installed. The weight of the building is estimated at 17,000 tons and the floor area 10,500 square yards. The following are among the firms who supplied materials or were otherwise interested in the construction of this splendid structure: Messrs. Howarth Erskine, Ltd., general contractors and supplying steel work; U. S. Steel Products Company, reinforcing steel for floors; Green Island Cement, Messrs. Shewan Tomes & Co., Messrs. Samuel McGregor & Co., conolite and malthoid; cold and hot water supply, Shanghai Waterworks Co.; electric light, telephones, signal service by Messrs. Scott Harding & Co.; refrigerating apparatus and electric elevators, electric fittings, Messrs. Anderson, Meyer & Co; Electric fittings, the Shanghai Electric and Asbestos Co.

MANILA PUBLIC WORKS.—During the fiscal year 1910 the city expended P738,000 for the maintenance of roads, bridges and parks; for new roads P186,800; for new equipment P108,000; for public buildings P41,270, and for new waterworks and sewerage system P1,200,000.

TSUKUGA HARBOR WORKS.—The work of improvement of this port has been suspended as a result of the destruction of the 120 yard breakwater by recent storms and the belief of engineers that a harbor at this point is impracticable.

PROJECTED HARBOR WORK IN KOREA.—The budget provides for the construction of custom houses and harbors amounting to 2,026,052 yen. Of this 583,000 yen are for the construction of a custom house and harbor in Chemulpo, 902,000 yen for Fusan, 325,000 yen for Chinnampo, and 62,000 yen for Pyongyang. The construction of the harbor at Chemulpo is a consecutive work for six years commencing next year. The estimates for the work during the six years are as follows:—

	yen.		yen.
1911	553,000	1914	650,000
1912	600,000	1915	650,000
1913	600,000	1916	450,000

The estimates for similar works at Fusan, Chinnampo, and Pongyang are as follows:—

	Fusan.	Chemulpo.	Pyongyang.
	yen.	yen.	yen.
1911	902,500	390,200	62,000
1912	325,050	340,000	66,000
1913	857,000	17,000	—
1914	973,000	—	—

MONGKOKSUI HARBOR OF REFUGE.—According to a statement made by the Colonial Secretary at a recent session of the Hongkong Legislature, the contract price for the performance of this work was \$2,018,002.54, Hongkong Cur., and the date of completion is October 26, 1915.

LIENSHAN HARBOR WORKS.—With the purchase of land for streets, work on the new harbor will begin.

SHIPBUILDING, MERCHANT MARINE AND FISHERIES

PACIFIC MAIL STEAMER'S CENTURY.—The S. S. China completed here 100th round trip on the one run upon her arrival in Hongkong, January 3.

JAPANESE BUY FOREIGN STEAMERS.—The Indo-China S. N. Co. has sold the S. S. Amara through Messrs. Jardine, Matheson & Co. to Mr. C. Yamaki of Tokyo for the Formosan trade. The steamer Hingsang of the same company was purchased some time ago. These vessels are each of approximately 2,400 tons.

PENANG TUG LAUNCHED.—The Eastern, a tug built by the Eastern Shipping Co., Limited, was launched from their dockyards at Sungie Nyor, Province of Wellesley, last month. This vessel is 60 feet in length with an 11 foot beam and depth of 5.5 feet. She will be fitted with a marine multitubular boiler and compound condensing engines, cylinders 8.25 inch with 12 inch stroke capable of maintaining a speed of 10 knots.

PACIFIC MAIL INTERMEDIATE SERVICE.—The S. S. Persia is to be added to the intermediate trans-pacific service making a squadron of three in this class. The rate from Hongkong to San Francisco will be £25 and the return fare £37.10 while the fare from Hongkong to London via New York will be £45, and return £78.

THE O. S. K. CANADA MARU.—This vessel which is of 6,000 tons gross, a sister ship to the Tacoma Maru and one of the most modern freight boats on the Pacific, was launched from the Mitsubishi Yards, Nagasaki, January 11.

CHINESE IMPERIAL SHIPYARDS PROPOSED FOR SHANGHAI.—The Grand Councillors are considering the selection of a site for a shipbuilding yard at Shanghai to cost Tls. 5,000,000.

MITSUI BISHI DOCKYARD.—The Yamakaze, a large torpedo boat destroyer of 1,050 tons displacement, at Nagasaki last month. She will be equipped with Parson's steam turbine engines of 27,800 h. p. and develop 33 knots.

PACIFIC MAIL MANILA STEVEDORING CONTRACT.—Messrs. Simmie and Grilk have secured the contract for handling the cargo of the company's steamers at Manila which represents an average of 10,000 tons a month.

THE HONGKONG, CANTON & MACAO S. S. CO.—The credit at profit and loss at the end of the year including \$18,026 brought forward from last account was \$126,344 on a capital investment of \$1,200,000. Out of this a dividend of \$1.25 a share was paid and \$20,000 carried forward.

MINES, MINERALS, AND THE METAL TRADE, MACHINERY, ETC.

SUGAR MILL MACHINERY FOR MINDORO AND FORMOSA.—The British Steamer Beachy is expected from Seattle via Honolulu with a shipment of lumber and 1680 tons of machinery to the order of the Mindoro Development Co. from the Honolulu Iron Works. There is also a shipment of sugar mill machinery from the Honolulu Iron Works to equip two twelve roller mills for Formosa to be delivered in April. Manager Hedemann is making a trip to the East to look over the situation at the invitation of the Japanese sugar men interested in Formosa.

F. M. S. TIN OUTPUT.—The total for December was 10,395 piculs.

STANDARD OIL IN NETHERLANDS EAST INDIA.—The American Company has been incorporated under the laws of Netherlands East India for the purpose of carrying on the oil war against the Royal Dutch Petroleum Company in its own territory. This company will extend its operations to India and engage in developing oil lands as well as refining.

THE STRAITS TRADING CO., LTD.—The profits for the half year amounted to \$524,057 Strs. Cur. out of which a dividend of 10% and 5% bonus was declared; \$50,000 placed in reserve and \$86,664 forward.

THE PENCHIHU COAL MINE AND MAOKON IRON DEPOSIT.—It is understood that a joint Japanese and Chinese Company with a capital of 1,000,000 yen has been organized to develop these mines after a careful investigation is made as to their promise respecting the production of iron.

CEMENT IN SIAM.—During the last fiscal year there were 2,846 tons of cement imported from Tonkin and 8,511 tons from Denmark.

GERMAN STEEL WORKS FOR KIANCHAU.—German capitalists are considering the establishment of an extensive smelter and steel manufacturing plant near Kianchau to be controlled by the Shantung Mining Co.

THE LINOTYPE & MACHINERY CO. LTD.—Messrs. Jardine Matheson & Co. have secured the Shanghai agency for this company and display rooms have been secured on Szechuen Road where the machines will be exhibited. The Ewo Engineering Department of the company will take charge of this important agency under the direction of Manager W. J. Milne.

THE MITSUI BUSSAN KAISHA, LTD.—The second half-yearly report of the Mitsui Bussan Kaisha, Ltd., for the period ending October 31st, 1910, submitted to and passed by the general meeting of the shareholders on January 18th, 1911, has just reached the local office of the company. The net profits for the half year ending October 31st, 1910, were 2,509,325.75 Yen which, together with a balance brought forward from the last term, made 2,899,654.40 Yen which the general meeting appropriated as follows: Legal reserve 130,000 yen, Special reserve, 1,600,000 yen, Directors' fees, 130,000, Dividends, 700,000 yen. Balance carried forward to next term, 339,654.40.

TONGKAI HARBOR TIN CO.—This company declared a second interim dividend of 5% payable January 28. The following is an excerpt from the recent report of the directors for 1910:

Profit and Loss Account.—The accounts presented herewith show that a gross working profit was made of £26,551 18s. 10d., Add the Deposit forfeited by the Option Syndicate £1,000, Together with the Balance carried forward from September 30th, 1909, £4002 17s. 4d. A total of £31,554 16s. 2d.

Against this there are the following items:—Stamp Duty £416 13s. 4d. Balance new buckets, etc., now in use on No. 1, 2, and 3 Dredgers written off £5051 12s. 2d.

Depreciation—Furniture £73 10s. 0s. Workshop Plant £183 14s. 5d. Buildings £197 7s. 6d. 10% on Nos. 1, 2, and 3 Dredgers £3,954 1s. 10d. Total £4,408 13s. 9d. Grand total 9,876 19s. 2d. Leaving a balance at credit of Profit and Loss A/c of £21,677 16s. 11d.

Notwithstanding the satisfactory profit shown above, no dividend was declared during the 12 months, but taking the Company's present position and prospects into consideration, the directors anticipate making an early announcement of quarterly dividends, which they hope will be regularly maintained.

This company placed an order for two new dredgers with Messrs. Wm. Simons & Co., Ltd., of Renfrew, along special designs which will soon be operating. One of the dredgers arrived last month and is described as follows: Length between perpendiculars of 125 ft., over all, 191 ft. breadth 40 ft. and depth 8 ft., dredging to a depth of 45 ft., and having a dredging capacity of 840 cub. yards per hour.

THE PUSING BABRU TIN MINING CO., LTD.—This company has declared a dividend of sixpence a share.

THE RAUB.—The total returns for the four weeks ended December 31, 1910, were 476 ounces of smelted gold and 1,225 amalgam.

THE ULU JOHAN MINING SYNDICATE, LTD.—This is a new company organized with a capital of \$30,000 to develop a block of tin lands near Sorakai.

FINANCIAL, COMMERCIAL AND MISCELLANEOUS.

MANILA MUNICIPAL COLLECTIONS.—The total collections from all sources for the first half of the fiscal year 1911 amounted to ₱1,266,610 as against ₱1,230,378 81 the corresponding period 1910.

MELCHERS & CO. AT TSINGTAO.—This company has opened its new offices at Tsingtao where they are engaged in general import and export and shipping business.

ZAMBOANGA FAIR.—A most successful exposition is in progress at the capital of the Moro province, the attendance being large from all parts of the Philippines.

KOREAN BEAN CROP.—The total yield of beans for 1910 is estimated at 10,000,000 bushels and the export up to the end of November reach a value of 4,700,000 yen.

CHINESE MILITARY DEPARTMENT.—A report from Peking is to the effect that on account of lack of funds only 25 divisions will be organized instead of 36 as proposed.

BANCO ESPAÑOL FILIPINO.—At the annual meeting the following officers were elected: President, J. S. Hord; Vice President, D. G. Marzano; Directors, Thomas L. Hartigan, Juan J. Tuason, A. R. Roxas, Edilberto Calixto, Felix Roxas, Mariano Limjap, Fernando Zobel, Enrique Barrera, Maximino Paterno, Paul Hube, Bernardino Hernandez, Emilio Moreta, Cu Un Jieng, S. M. Jones.

THE AMERICAN-CHINESE BANK.—According to latest advices this institution will have a capital of ₱10,000,000 subscribed equally by Chinese and Americans with head office in Shanghai and branches throughout China and America.

THE HONGKONG AND SHANGHAI BANKING CORPORATION.—The following is an excerpt from the directors' report for the half year ended December 31:

The net profits for that period, including \$2,029,390 83, balance brought forward from last account after paying all charges, deducting interest paid and due, and making provision for bad and doubtful accounts, amount to \$5,249,606 46.

The Directors recommend the transfer of \$250,000 from the Profit and Loss Account to credit of the Silver Reserve Fund, which Fund will then stand at \$16,250,000.

After making this transfer and deducting Remuneration to Directors there remains for appropriation \$4,984,606 46, out of which the Directors recommend the payment of a Dividend of Two Pounds Sterling per Share, viz.: £240,000 and a Bonus of Five Shillings Sterling per Share, viz.: £30,000 amounting in all to £270,000 which at 1/10 the rate of the day, will absorb \$2,945,454 55.

The Balance \$2,039 151 to be carried to New Profit and Loss Account.

Sterling reserve fund.—The holding of £1,200,000 2½ per cent Consols has been written down to 79. This was effected by the purchase at about par of £15,000 other Sterling Securities, making our holding under this heading £340,000 written down to £287,400. The cost of this adjustment was met out of the earnings of the half-year.

Directors.—The Honourable Mr. Henry Keswick has been elected Chairman for the year 1911, and Mr G. H. Medhurst Deputy Chairman.

Mr. J. W. Bandow and Mr. E. Shellim having resigned their seats, Mr. G. Friesland and Mr. W. Logan have been invited to fill the vacancies; these appointments require confirmation at the Meeting.

Mr. H. A. Siebs, Mr. R. Shewan and Mr. G. Balloch retire in rotation, but being eligible for re-election, offer themselves accordingly.

Auditors.—The Accounts have been audited by Mr. W. Hutton Potts and Mr. J. W. C. Bonnar, who offer themselves for re-election.

PHILIPPINE POSTAL SAVINGS BANK.—On February first 45 new branches were opened in different parts of the islands.

THE WEST POINT BUILDING CO., LTD.—This company paid a dividend of \$4 for 1910 as against \$3.80 the previous year.

AMERICAN CAPITAL TO TAKE OVER A. S. WATSON & CO., MANILA BRANCH.—A corporation with a capital of ₱500,000 has been organized to purchase this old reliable house and continue the business. The officers of the corporation are:

R. N. Clark, president; Assistant Manager Taylor of the International Bank, vice president; Jerome Prager, secretary-treasurer; and Dr. Tee Han Kee, F. W. Breaker, C. W. O'Brien, George I. Franks and John T. Pickett, directors.

THE PARSONS HARDWARE CO.—The well-known firm of J. Parsons, general hardware and machinery dealers, have incorporated with Mr. W. Parsons, president. The announcement will be made in the near future.

THE FILIPPINO HOME MUTUAL BUILDING AND LOAN ASSOCIATION.—This association was recently organized with an authorized capital of ₱3,000,000.00 in shares of ₱200 each.

PHILIPPINE HAT MAKING

The **PHILIPPINE JOURNAL OF SCIENCE**, Volume VI, Section C, No. 2, will include a paper by Dr. C. B. Robinson on the subject of Philippine hats.

The work covers the whole field of the subject, the origin and history of hat making so far as the Philippines are concerned, the materials used, methods of preparation, the actual hats and the difference between them, their prices, statistics of the export trade in them, brief comparison with the products of other countries in the eastern tropics, and the commercial situation and outlook. It embodies also short notes on mat making and other allied industries. The headings are as follows: introduction, seat of industry, history, species of plants used, means of distinguishing the principal kinds of Philippine hats, bamboo hats, buri hats, buri-leaf hats, buntal hats, and buri-midrib or Calasiao hats, pandan hats including sabotan, balangot hats, hemp hats, nito hats, tigrog or tayoc hats, materials of minor importance, straw hats, salacots, mat making, cigar cases and cigarette-cases, bags and baskets, general considerations and acknowledgments.

This will be an extensive, well illustrated article, the result of much research work, extending over a period of many months. For those interested in hat manufacturing the work would be found authoritative and valuable.

LONDON METAL MARKET

The following are to-nigh's (December 30) prices of metals:—

	COPPER.	£ s. d.	£ s. d.
*Tough cake and ingot	59 10 0	..	60 0 0
*Best selected	59 10 0	..	60 0 0
*Electrolytic	60 15 0	..	61 5 0
*Sheets and sheathing	72 0 0	..	—
*Flat bottoms	75 0 0	..	—
STANDARD {Cash	56 0 0	..	56 2 6
{Three Months	56 15 0	..	56 17 6
*Copper tubes, seamless per lb.	0 0 8½	..	—
*Lake	61 10 0	..	62 0 0
* Less ¾ per cent. † Net.			

	ALLOYS.	£ s. d.	£ s. d.
BRASS: Wire	0 0 6½	..	—
" Tubes (solid drawn)	0 0 6½	..	—
" Sheets	0 0 6½	..	—

	TIN.	£ s. d.	£ s. d.
English ingots, f. o. b.	174 0 0	..	175 0 0
" bars	175 0 0	..	176 0 0
" refined	176 0 0	..	177 0 0
" {Cash	174 10 0	..	174 15 0
" {Three months	173 15 0	..	174 0 0
Australian spot	—	..	—
Banka (in Cash)	172 5 0	..	—
Holland {Three months	172 10 0	..	—

	LEAD.	£ s. d.	£ s. d.
Spanish or soft foreign	13 0 0	..	13 1 8
English pig, common	13 5 0	..	13 7 6
" L. B.	13 15 0	..	—
" sheet and bar lead	14 17 6	..	—
" pipe	15 7 6	..	—
" red	15 17 6	..	—
" white	19 15 0	..	—
" patent shot	16 5 0	..	—

	SPELTER.	£ s. d.	£ s. d.
Silesian ordinary brands	23 17 6	..	24 0 0
special brands	24 5 0	..	24 10 0
English Swansea	—	..	—
Sheet zinc	29 5 0	..	—

	ANTIMONY.	£ s. d.	£ s. d.
Antimony	27 0 0	..	29 0 0
" Crude	12 0 0	..	13 10 0
" Ore (basis 50%)	28 15 0	..	—

	QUICKSILVER.	£ s. d.	£ s. d.
Flasks, 75 lbs. warrants	8 0 0	..	—

	ALUMINIUM.	Per ton.	Per ton.
98-99 per cent.	66 10 0	..	67 10 0

	NICKEL.	Per ton.	Per ton.
98-99 per cent. guaranteed	167 10 0	..	171 0

	PLATINUM.	Per oz. Troy, 160s.; nominal and subject to negotiation.
		—

The Mining Journal.

FAR EASTERN STOCKS AND QUOTATIONS

Courtesy of Messrs. Kadoorie & Co., Hongkong, February 3, 1911.

STOCK.	WHEN ESTABLISHED	CAPITAL	NO. OF SHARES	VALUE	PAID UP	RESERVE	AT WORKING ACCOUNT	DATE	LAST DIVIDEND.	Approximate Yield per cent per annum at Present Quotation	CLOSING QUOTATIONS
BANKS.											
Hongkong & Shanghai Banking Corporation	1865	\$15,000,000	120,000	\$125	\$125	£1,500,000 \$16,000,000 \$250,000	\$2,029,390	31-6-10	{ £2. for first half year ending 30-6-10, @ ex 1/9 1/2 = \$22.456 }	4 1/2 %	{ \$920 £89-15/- }
National Bank of China, Ltd.	1891	£699,475	10) 99,925	£7	£6	£4,079 \$400,000	\$34,167	31-12-09	\$2 (London 3/6) for 1903.	---	\$80 buyers
MARINE INSURANCES.											
Canton Insurance Office, Ltd.	1881	\$2,500,000	2) 10,000	\$250	\$50	\$1,600,000 \$268,696 \$305,181	Nil.	31-12-08	\$15 for 1909.	8 1/2 %	\$180 sellers
North China Insurance Co., Ltd.	1903	£150,000	10,000	£15	£5	£125,000 Tls. 225,000 Tls. 368,644 Tls. 137,308	Tls. 205,719	30-6-10	{ Final dividend of 7 1/2 % for 1909 making 15% in all... }	5 %	Tls. 160 sellers
Union Ins. Society of Canton, Ltd.	1867	\$3,100,000	12,400	\$250	\$100	\$3,000,000 £90,000 \$287,984 \$1,449,735 \$713,985	2,552,545	31-12-09	{ Final of \$20 per share, making in all \$50 per share for 1908, and an int. div. of \$30 per share for 1909 }	6 %	\$825
Yangtze Ins. Association, Ltd.	1889	\$1,200,000	12,000	\$100	\$60	\$1,000,000 \$371,802 £169,861	\$797,602	31-12-09	{ \$12 for year ending 31-12-08 and interim of \$3 on account of 1909 }	6 %	\$200
FIRE INSURANCES.											
China Fire Ins. Co., Ltd.	1870	\$2,000,000	20,000	\$100	\$20	\$1,000,000 \$550,348 \$61,168	\$438,406	31-12-09	\$6 and bonus \$2 for 1908.	6 1/2 %	\$120 buyers
Hongkong Fire Ins. Co., Ltd.	1868	\$2,000,000	8,000	\$250	\$50	\$1,460,000 81,153	\$426,218	31-12-09	\$27 for 1908.	7 1/2 %	\$365
SHIPPING.											
China & Manila Steamship Co., Ltd.	1882	\$750,000	1) 30,000	\$25	\$25	\$57,734	Dr. \$3,777	31-12-09	\$4% for 1906.	---	\$7 1/2 buyers
Douglas Steamship Co., Ltd.	1883	\$1,000,000	20,000	\$50	\$50	\$230,000 \$100,589	Nil.	30-6-10	\$2 1/2 for year ending 30-6-1908.	---	\$17 buyers
Hongkong, Canton & Macao Steamboat Co., Ltd.	1865	\$1,200,000	80,000	\$15	\$15	\$250,000 £630,000 \$130,545 \$ 19,106	\$18,026	30-6-10	{ Dividend of \$1 1/2 for half year ending 30.6.1910 }	8 1/2 %	\$31 1/2 sellers
Indo-China Steam Navigation Co., Ltd. (Preferred)	1882	£600,000	(2) 60,000	£5	£5	£138,100	£15,162	31-12-08	{ 3% = 3/- on Preferred shares only for 1910. }	2 1/2 %	\$56
Do. Do. (Deferred)			(2) 60,000						{ Final div. of 2/6 per share (coupon 14) making in all 4/6 per share for 1909, and an int. div. of 1s. per share on % for 1910 }	5 %	{ 90/- £11 buyers }
"Shell" Transport & Trading Co. Ltd.	1898	£ 2,000,000	2,000,000	£1	£1	£120,000 £1,000,000	£205,868	31-12-09	{ A dividend of 7% for year and bonus of 5% ending making 12% }	5 % 6 %	\$23 \$12
"Star" Ferry Co., Ltd.	1900	\$200,000	10,000	\$10	\$5	\$6,500 \$55,830	\$1,159	30-4-10			
REFINERIES.											
China Sugar Refining Co., Ltd.	1878	\$2,000,000	20,000	\$100	\$100	\$520,000 \$83,620	Dr. \$8,090	31-12-09	\$5 for half year ending 30-6-1910.	6 %	\$112 sellers
Luzon Sugar Refining Co., Ltd.	1882	\$700,000	7,000	\$100	\$100	none	Dr. \$101,851	31-12-09	\$3 for 1897.	---	\$18 sellers
MINING.											
Chinese Engineering & Mining Co., Ltd.	1901	£1,000,000	1,000,000	£1	£1	£215,000 £12,289	....	..	{ Final div. of 1/6 for the year 1910 making 15% (coupon 15) }	9 %	Tls. 13 1/2 sellers
Headwaters Mining Co.	1908	P600,000	28) 600,000	P10	P10				First year.		P10
Raub Australian Gold Mining Co., Ltd.	1892	£200,000	200,000	£1	£1	£4,873	Dr. \$6,583	13-4-10	1/2 per share, 13th div.	5 %	\$3 sellers
Oriental Consolidated Mining Co. Ltd.	...	\$5,000,000	500,000	\$10	\$10	none	....	..	{ Final of gold \$0.65 for 1909 in all g. \$1.15. }	..	32 1/6
DOCKS, WHARVES AND GODOWNS											
Fenwick (Geo.), & Co., Ltd.	1889	\$450,000	18,000	\$25	\$25	\$25,275 \$550,000	Dr. \$8,460	31-12-09	\$1 1/2 for year ending 31-12-06.	---	\$5
Hongkong & Kowloon Wharf & Godown Co., Ltd.	1886	\$3,000,000	60,000	\$50	\$50	\$31,993 \$40,000	\$4,848	31-12-09	\$2 1/2 for 1909	4 1/2 %	\$53 1/2 sellers
Hongkong & Whampoa Dock Co., Ltd.	1866	\$2,500,000	50,000	\$50	\$50	\$88,214 \$221,000	\$148,940	30-6-10	3% for half year ended 30-6-1909	..	\$57
Shanghai Dock & Eng'g Co., Ltd.	1906	Tls. 5,570,000	13) 55,700	Tls. 100	Tls. 100	Tls. 1,000,000 Tls. 697,257	....	..	{ Final of Tls. 3 1/2 making Tls. 6 in all for year 30-4-1910 }	9 %	Tls. 67
Shanghai & Hongkew Wharf Co., Ltd.	1902	Tls. 3,600,000	36,000	Tls. 100	Tls. 100	Tls. 50,000 Tls. 125,000	....	..	Interim of Tls. 3 for 1910.	7	Tls. 100
LANDS, HOTELS AND BUILDINGS.											
Anglo-French Land Investment Co., Ltd.	1906	Tls. 2,500,000	3) 25,000	Tls. 100	Tls. 100	Tls. 35,000	Tls. 4,314	29-2-09	Tls. 6 for year ending 29-2-10	5 1/2 %	Tls. 95 sellers
Central Stores, Ltd.	...	\$751,845	16) 50,123	\$15	\$15	\$1,000	\$1,000	31-12-08	8% for 1909	---	\$11 sellers
Hongkong Hotel Co., Ltd.	1866	\$600,000 \$400,000	12,000 8,000	\$50 \$50	\$50 \$25	\$648,975 \$20,000	\$21,477	30-6-10	{ \$3 on old shares, \$1.50 on new shares, for half year ending 30-6-10 }	5 1/2 %	{ \$103 buyers \$64 buyers }
Hongkong Land Investment & Agency Co., Ltd.	1889	\$5,000,000	50,000	\$100	\$100	\$250,000	\$27,971	31-12-10	{ Final Dividend of \$3.50 per share for 1910. }	7 %	\$97 sellers
Humphreys' Estate & Finance Co., Ltd.	1887	\$1,500,000	150,000	\$10	\$10	\$226,945 \$25,856	\$5,471	31-12-09	45 cents for 1909.	5 1/2 %	\$7 buyers
Kowloon Land & Bldg. Co., Ltd.	1889	\$300,000	6,000	\$50	\$30	none	\$269	31-12-09	\$2 1/2 for 1909.	8 %	\$35 sales
Shanghai Land Investment Co., Ltd.	1888	Tls. 3,900,000	78,000	Tls. 50	Tls. 50	Tls. 1,523,045 Tls. 300,000	Tls. 63,969	31-12-09	Interim of Tls. 3 for 1910.	6 1/2 %	Tls. 98
West Point Bldg. Co., Ltd.	1889	\$625,000	12,500	\$50	\$50	none	\$1,958	31-12-10	{ Final Dividend of \$2.20 per share making \$4 in all for year 1910. }	8 1/2 %	\$43 buyers
COTTON MILLS.											
Two Cotton Spinning & Weaving Co., Ltd.	1895	Tls. 1,000,000	5) 20,000	Tls. 50	Tls. 50	Tls. 250,000	Tls. 10,991	31-10-09	Tls. 11 for year ended 31-10-09.	13 %	Tls. 85
Hongkong Cotton Spinning, Weaving & Dyeing Co., Ltd.	1901	\$1,250,000	125,000	\$10	\$10	20,000	\$26,297	30-7-09	50 cents for year ending 31-7-08.	---	\$5 buyers

FAR EASTERN STOCKS AND QUOTATIONS—(CONTINUED.)

STOCK.	WHEN ESTABLISHED	CAPITAL.	NO. OF SHARES.	VALUE	PAID UP.	RESERVE	AT WORKING ACCOUNT.	DATE.	LAST DIVIDEND.	Approximate Yield per cent. per annum at present quotation.	CLOSING QUOTATIONS
International Cotton Manufacturing Co., Ltd.	1895	Tls. 750,000	6) 10,000	Tls. 75	Tls. 75	Tls. 175,000	Tls. 8,372	30-9-09	Tls. 7½ for year end. 30-9-09 (10%)	10%	Tls. 53
Laou-kung-mow Cotton Spinning & Weaving Co., Ltd.	1895	Tls. 800,000	8,000	Tls. 100	Tls. 100	none	Tls. 4,829	31-12-08	Tls. 6 for 1909	10%	Tls. 59
Soy Chee Cotton Spinning Co., Ltd.	1895	Tls. 1,000,000	2,000	Tls. 500	Tls. 500	f Tls. 31,173	Tls. 31,173		Tls. 35 for 1909	17%	Tls. 240
MISCELLANEOUS											
Bell's Asbestos Eastern Agency, Ltd.	1895	£5,377.10s.	11) 8,604	12/6	12/6	£1,500	£797	31-12-09	15% for 1909		\$8 sellers
China-Borneo Co., Ltd.	1903	\$720,000	8) 60,000	\$12	\$12	\$40,000	Nil.	31-12-08	5% for 1909	6½	\$9
China Light & Power Co., Ltd.	1901	\$300,000	50,000	\$5	\$5	none	\$50,242	31-7-10	60 cents for year ending 28-2-06		95 cts. buyers
China do. Special Shares	1907		17) 50,000	\$1	\$1						
China Provident Loan & Mortgage Co., Ltd.	1898	\$1,250,000	7) 125,000	\$10	\$10	\$81,000	\$450	31-12-09	80 cents for 1910	10%	\$7½ ex div. sellers
Dairy Farm Co., Ltd.	1896	\$300,000	40,000	\$7½	\$6	\$10,000	\$1,850	31-7-09	\$1.20 for year ending 31-7-09	6½	\$17½ buyers
Green Island Cement Co., Ltd.	1897	\$4,000,000	400,000	\$10	\$10	\$14,000	\$4,290	31-12-09	Interim of 15 cts. per share for 1910	15	\$3½ sales
H. Price & Co., Ltd.	1907	\$120,000	19) 15,000	\$10	\$10	none	\$1,923.87	31-12-09	14% viz \$1.40 for 1909	12%	\$12
Hongkong Electric Co., Ltd.	1889	\$600,000	60,000	\$10	\$10	none	\$11,798	28-2-10	A dividend of \$1.20 per share and a bonus of 10 cts. per share for year end. 28-2-10.	6½	\$21 buyers
Hongkong Ice Co., Ltd.	1881	\$125,000	5,000	\$25	\$25	\$150,000	\$12,662	31-12-09	Interim of \$2 per share for 1910		\$150 buyers
Hongkong Rope Manufacturing Co., Ltd.	1883	\$600,000	\$60,000	\$10	\$10	\$40,000	\$9,176	31-12-09	Interim of \$1 per share for 1910	10½	\$18½
Maatschappij tot Mijn- en Landbouwexploitatie in Langkat	1902	Gs. 2,500,000	250,000	Glds. 10	Glds. 10	21 Tls. 547,500 Tls. 547,500 / Tls. 63,914	Tls. 316,682	31-12-08	3rd Interim Div. of Tls. 15 making in all Tls. 37½ for 1910	5	Tls. 122
Peak Tramways Co., Ltd. (New)	1907	\$750,000	25,000	\$10	\$10	\$20,000	\$3,014	30-4-10	80 cents on fully paid shares & 8 cents on \$1 paid shares for year ending 30-4-10	5½ 5	\$13 sellers \$1½ sellers
Philippine Co., Ltd.	1904	\$750,000	75,000	\$10	\$10	none	Ps. 2,875	31-12-09	None		\$8
Robinson Piano Co., Ltd.	1900	\$200,000	22) 4,000	\$50	\$50	\$5,000	\$61,138	31-8-08	6% for ½ year ending 30.9.07		\$50
Shanghai-Sumatra Tobacco Co., Ltd.	1902	Tls. 600,000	9) 30,000	Tls. 20	Tls. 20	Tls. 24,820 w Tls. 100,000	Tls. 5,250	31-10-08	No dividend this year	2	Tls. 120 sellers
South China Morning Post, Ltd.	1903	\$150,000	6,000	\$25	\$25	none	Dr. \$31,096	31-8-09	None		\$25
Steam Laundry Co., Ltd.	1902	\$100,000	20,000	\$5	\$5	none	\$127.86	31-5-10	50 cents for year ending 30-5-10	8	\$5
Union Waterboat Co., Ltd.	1905	\$500,000	15) 50,000	\$10	\$10	none	\$687	31-12-08	5% for year ending 31-12-10	6½	\$7½ sales
United Asbestos Oriental Agency, Ltd.	1896	\$100,000	10,000	\$10	\$4	\$46,000	\$471	31-5-10	15% per ordinary share for year ended 31-5-10	5	\$11½ sellers
Watkins, Ltd.	1899	\$100,000	10,000	\$10	\$10	none	\$19.41	31-12-09	3½ for 1909		\$3 sellers
Watson (A. S.) & Co., Ltd.	1886	\$900,000	90,000	\$10	\$10	\$300,000 e) \$25,000	\$1,776	31-12-09	3% for 1909	5%	\$5½ buyers
Weismann Limited	1904	\$30,000	3,000	\$10	\$10	\$12,250	\$67	31-7-10	10 per cent for year endg. 31.7.10.	8%	\$12 buyers
William Powell, Ltd.	1901	\$105,000	15,000	\$7	\$7	none	\$782	30-6-09	30 cents making 80 cents for year ending June 30th 1906		\$2½
Societe des Pulpes et Papeteries du Tonkin		660,000	13,200	50	35	Haiphong Currency			First year		\$36 (Hk. Cy.) sel.

LOANS AND DEBENTURES.

LOANS AND DEBENTURES.	AGENTS FOR THE LOAN.	AMOUNT OF LOAN.	PAR VALUE.	OUTSTANDING BONDS.	WHEN PAYABLE.	CLOSING QUOTATIONS.
China Government, 7 per cent. Silver Loan 1886 E	Hongkong & Shanghai Banking Corporation.	Tls. 767,200	Tls. 250	1914	Mar. 31st and Sept. 30th each year until Mar. 31st, 1917	par.
Hongkong Hotel Company, Ltd., 6 per cent. Mortgage Debentures of 1899		\$750,000	\$500	all	Half yearly, June 30th and December 31st	par.
Shanghai & Hongkew Wharf Company, Ltd., 6 per cent. Debentures of 1902		Tls. 543,900	Tls. 100		Half yearly, June 30th and December 31st	Tls. 103½
Astor House Hotel Company, Ltd., 8 per cent. Debentures of 1903		Tls. 500,000	Tls. 100		Half yearly, January 1st and July 1st	102½
Chinese Engineering & Mining Co., Ltd., 6 per cent. Debentures of 1903		£500,000	¶	£431,960	Half yearly, June 30th and December 31st	par.
International Cotton Manufacturing Co., Ltd. 7% Debentures of 1901	Russo Chinese Bank	Tls. 500,000	Tls. 100	||	Half yearly, March 31st and Sept. 30th	Tls. 97½

a Authorized capital \$2,000,000.
b Building Reserve Account.
c Capital Reserve Fund.
d Depreciation Fund.
e Equalization of Dividend Fund.
f Exchange and Investment Fluctuation Account.
g Gold Reserve Fund.
h Exchange and Reserve Account.
i Insurance Fund.
j Reinsurance Fund.
k Contingencies Account.
l Legal Reserve Fund.
m Authorized Capital.
n Sinking Fund.
o Raw Sugar Reserve Account.
p Premium on New Issue.
q Boiler Repairs and Renewals Account.
r Repairs and Renewals Account.
s Silver Reserve Fund.

t Depreciation and Repair Account.
u Underwriting Suspense Account.
v Special account.
w Special Works Fund.
x Extra Reserve Fund.
y 72,560 owned by the Company.
z 7,200 shares unissued.
1 4,000 shares unissued.
2 First issue of 60,000, of which 10,411 unallotted.
3 5,000 shares unissued.
4 4,480 shares unissued.
5 5,000 shares unallotted.
6 1,616 shares unallotted.
7 75,000 shares unissued.
8 14,000 shares unissued.
9 17,000 shares unissued.
10 40,453 shares actually issued.
11 7,688 shares actually issued.
12 4,200 shares unissued.

13 500 shares unissued.
14 399 shares unissued.
15 22,277 shares unissued.
16 10,000 shares unissued.
17 Special shares are entitled to half of the profits.
18 Capital contributed by Chinese Government-Kuping Tls. 50,000.00.
19 12,000 issued only.
20 Typhoon and Floods Insurance Fund.
21 Special Cash Reserve.
22 1000 shares unissued.
23 10,000 shares unissued.
24 4595 part paid shares.
25 7,500 shares unissued.
26 10,000 shares unissued.
27 2,350 shares unissued.
28 25,000 shares unissued.
29 10,000 shares unissued.

30) 3,700 fully paid vendor shares and an option of 5,000 shares at par for 5 years granted to option holders.
* Based on last year's dividend.
** Based on present dividend.
§ 216 held by the Company.
|| Only Tls. 134,000 taken up.
¶ In certificates of £20 and £100.
† Redeemable in 10 years, or at option of Comp., the Company giving 6 months notice.
‡ Redeemable at par at rate of £10,000 per annum from 31st December 1903 to 31st December 95.
*** Redeemable at par on 30th June, 1915.
Dr. Deficit.
†† Singapore dollars.
‡‡ 4,880 shares unissued.
× 16,756 shares unissued.
\$\$\$ 25,000 shares unissued.
4140 shares unissued.

ADDITIONAL SHANGHAI SHARE QUOTATIONS

December 30, 1910

STOCK	CLOSING QUOTATIONS	HIGHEST AND LOWEST PRICES DURING THE WEEK	CAPITAL	NO. OF SHARES	VALUE	PAID UP	RESERVE	LAST DIVIDEND	WHEN PAID
Vulcan Iron Works, Limited....	Tls. 10		Tls. 500,000	1,000	Tls. 500	Tls. 500	—	Tls. 50 for year ended 31.8.06.....	Nov. 1, 1906
Yangtze Wharf & Godown Co. Limited.....	Tls. 195		Tls. 250,000	2,500	Tls. 100	Tls. 100	Tls. 50,000	Tls. 15 for 1909.....	April 1, 1910
Wei-hai-wei Land & Building Co., Limited.....	Tls. 8 nominal		Tls. 91,850	3,674	Tls. 25	Tls. 25	—	Interim of \$2.00 for 1909.....	Aug. 8, 1909
Anglo-German Brewing Co., Limited.....	\$80 sellers		\$100,000	4,000	\$100	\$100	none	5% for 1909.....	Mar. 12, 1910
Butler Tile Works, Limited.....	Tls. 23		Tls. 60,000	1,200	Tls. 50	Tls. 50	—	Tls. 3 for year ending 31.3.09.....	June 8, 1909
Major Bros., Limited.....	Tls. 40		Tls. 300,000	6,000	Tls. 50	Tls. 50	—	First year.....	—
Oriental Ice Company, Limited.....	Tls. 25		Tls. 130,000	2,600	Tls. 50	Tls. 50	—	First year.....	—
Scharffs Oil and Bone Mills, Ltd.....	Tls. 40		Tls. 200,000	4,000	Tls. 50	Tls. 50	—	6 for 1909.....	Mar. 14, 1910
Shanghai Ice Company, Limited.....	Tls. 13		Tls. 200,000	8,000	Tls. 25	Tls. 25	—	\$5 year ending 28.2.08.....	Apr. 15, 1908
Dunning & Company, Limited.....	\$33 sales		\$100,000	2,000	\$50	\$50	—	7.20 for 1909.....	May 1, 1910
J. Llewellyn & Co., Limited.....	\$60 nominal		\$72,000	1,200	\$60	\$60	—	10% for year 1909.....	Apr. 28, 1910
Lane, Crawford & Company.....	\$120		\$250,000	2,500	\$100	\$100	—	\$2 for year ended March 31, 1909.....	June 18, 1909
S. Moutrie & Company, Limited.....	\$20		\$250,000	5,000	\$50	\$50	—	Final of 6% making 10% for 1909.....	June 1, 1910
Weeks & Company, Limited.....	\$23		\$400,000	20,000	\$20	\$20	\$40,000	First year.....	—
Dominion Rubber Co., Limited.....	Tls. 30		Tls. 225,000	22,500	Tls. 10	Tls. 4	—	20% for year ending May 31 1910.....	May 9, 1910
Sennawang Rubber Estates Company, Limited.....	Tls. 50		Tls. 250,000	2,500	Tls. 100	Tls. 100	—	50 cents for 1909.....	Sept 2, 1910
Iebong Rubber and Tapioca Estates, Limited.....	Tls. 20		Tls. £76,000	76,000	£1	£1	—	Final of 6% making 16% year 1909.....	June 22, 1910
Shanghai Mercury, Limited.....	Tls. 55		Tls. 105,500	2,100	Tls. 50	Tls. 50	—	Tls. 3 for 1907.....	June 28, 1909
Shanghai Mutual Telephone Co., Limited.....	Tls. 64		Tls. 675,000	13,500	Tls. 50	Tls. 50	—	5 p. c. for 1909.....	May 1, 1910
China Export, Import & Lumber Company, Limited.....	Tls. 75 sales		Tls. 350,000	500	Tls. 100	Tls. 50	—	7% 1908.....	Apr. 18, 1909
China Printing Co., Limited.....	Tls. 50		Tls. 750,000	1,500	Tls. 50	Tls. 50	—	{ 10% = yen 2½ for year ending 30th Sept. 08 Y. 1.20 for year ended Feb. 29.....	Apr. 26, 1909
Hirano Mineral Water Co., Ltd.....	Y. 10		Y. 125,000	5,000	Y. 25	Y. 25	—	8% for year ended Feb. 28, 09.....	June 21, 1909
Shanghai Electric & Asbestos Company, Limited.....	\$21 sellers		\$125,000	5,000	\$25	\$25	—	First year.....	—
Shanghai Electric Construction Company, Limited.....	£6½	£11	£320,000	32,000	£10	£10	—		

DEBENTURES

LOANS	PRICE—PLUS ACCRUED INTEREST	AMOUNT OF LOAN	OUTSTANDING	NOMINAL VALUE	RATE OF INTEREST	WHEN PAYABLE
Shanghai Municipal Debentures.....1892	Tls. 97	Tls. 45,400	Tls. 45,400	Tls. 100	5 %	June & Dec.
do.....1893	" 100	" 46,200	" 32,000	" 100	5½ %	Do
do.....1894	" 106	" 60,000	" 60,000	" 100	6 %	Do
do.....1895	" 97	" 107,600	" 32,600	" 100	5 %	Do
do.....1896	" 97	" 117,300	" 181,800	" 100	5 %	Do
do.....1897	" 97	" 268,400	" 268,400	" 100	5 %	Do
do.....1898	" 106	" 60,000	" 60,000	" 100	6 %	Do
do.....1900	" 100	" 81,700	" 81,700	" 100	5½ %	Do
do.....1901	" 106	" 77,000	" 200,000	" 100	6 %	Do
do.....1902	" 106	" 145,000	" 150,000	" 100	6 %	Do
do.....1903	" 106	" 430,500	" 490,500	" 100	6 %	Do
do.....1904	" 106	" 164,500	" 214,500	" 100	6 %	Do
do.....1905	" 106	" 285,900	" 820,000	" 100	6 %	Do
do.....1907	" 106	" 500,000	" 250,000	" 100	6 %	Do
do.....1908	" 250 scarce	" 650,000	" 354,400	" 250	6 %	Do
do.....1909	" 97½	" 300,000	" 250,000	" 100	6 %	Do
Chinese Imperial Government Loan.....1886 E	" 102½	" 354,400	" 354,400	" 100	7 %	Mar. & Sept
Shanghai Land Investment Co., Debentures.....1892	" 95	" 250,000	" 250,000	" 100	6 %	May & Nov.
do.....1894	" 104	" 250,000	" 250,000	" 100	6 %	Mar. & Sept.
do.....1896	" 104	" 250,000	" 250,000	" 100	5 %	June & Dec.
do.....1900	" 95	" 250,000	" 250,000	" 100	6 %	April & Oct.
do.....1901	" 104	" 250,000	" 100,000	" 100	6 %	June & Dec.
do.....1901	" 104	" 100,000	" 400,000	" 100	5 %	May & Nov.
do.....1902	" 104	" 400,000	" 250,000	" 100	6 %	June & Dec.
do.....1905	" 104	" 250,000	" 815,900	" 100	6 %	Do
Shanghai Waterworks Co., Debentures.....1909	" 104	" 865,900	" 865,900	" 100	6 %	April & Oct.
Shanghai Gas Co., Debentures.....1909	" 106	" 775,000	" 800,000	" 100	5 %	Do
Shanghai and Hongkew Wharf Co., Debentures.....1902	" 105 scarce	" 1,000,000	" 799,800	" 100	6 %	June & Dec.
Astor House Co., Debentures.....1905	" 100	" 750,000	" 500,000	" 100	7 %	Do
British Municipal Council, Hankow.....1901	Sh. " 100	H'kow Tls 100,000	H'kow Tls 100,000	" 100	7 %	June & Dec.
Shanghai Club Debentures.....1907	" 100	Tls. 170,000	Tls. 170,000	" 100	6 %	Do
Country Club Debentures.....1907	" 102½	" 139,000	" 139,000	" 100	6 %	Do
do.....1907	" 102	" 92,000	" 92,000	" 100	6 %	Do
Lane Crawford & Co., Debentures.....1907	" 105	" 110,000	" 110,000	" 100	7 %	Mar. & Sept.
Anglo-French Land Debentures.....1908	" 102	" 250,000	" 250,000	" 100	6 %	June & Dec.
Central Stores Ltd. Debentures.....1908	" 102½	" 250,000	" 250,000	" 100	8 %	Do
Shanghai Mutual Tel. Co. Debentures.....1909	" 102½	" 200,000	" 200,000	" 100	6 %	Do

SINGAPORE SHARE QUOTATIONS

(COURTESY MESSRS. FRASER & CO., BROKERS, SINGAPORE, JANUARY 26, 1911)

Date of Formation	Capital	Capital paid up	No. of Shares Issued	Issue Value	Paid up	Reserve	Last Dividend	Name	Buyers	Sellers
1903	\$300,000	300,000	30,000	10	10	—	10% interim	Belat Tin Mining Co., Ltd.	4.85	5.00
1907	\$300,000	225,000	22,500	10	10	—	6% for year ending 30-4-09	Bruang Ltd.	6.00	6.25
1901	\$600,000	600,000	60,000	10	10	25,000	6½- interim 1910	Bruseh Hydraulic Tin Mining Co., Ltd.	—	5.00
1907	\$400,000	375,000	37,500	10	10	—	35% for year ending 31-12-07	Kanaboi, Ltd.	1.50	1.75
1901	\$60,000	60,000	60,000	1	1	—	1½- interim 1909	Kinta Tin Mines, Ltd.	16.75	17.50
1905	\$150,000	99,000	9,900	10	10	6,485.68	—	Kuantan Tin Mining Co., Ltd.	2.00	3.00
1906	\$120,000	120,000	120,000	1	1	—	—	Lahat Mines Ltd.	8.75	9.25
1906	\$450,000	450,000	45,000	10	10	—	—	Malacca Tin Dredging Co., Ltd.	—	1.50
1906	\$30,000	30,000	30,000	1	1	—	—	Malaya and Siam Corporation Ltd.	—	7½
1906	\$250,000	179,500	500,000e	5½-	5½-	—	—	Pahang Consolidated Co., Ltd.	4½	5½
1907	\$100,000	80,000	80,000	1	1	—	—	Pengkalan. Ltd.	4.00	4.50
1904	\$100,000	80,000	80,000	1	1	—	6½- interim	Pusing Bahru Tin Mines, Ltd.	7.75	8.25
1904	\$120,000	100,000	100,000	1	1	6,000	6½- interim	Pusing Lama Tin Mines, Ltd.	2.25	2.75
1907	\$450,000	300,000	30,000	10	10	—	—	Rahman Hydraulic Tin, Ltd.	10.50	11.00
1905	\$40,000	40,000	40,000	1	1	—	—	Rahman Tin Co., Ltd.	10.50	11.00
1905	\$27,000	27,000	27,000	1	1	—	1½- for 1907	Rambutan, Ltd.	—	9.00
1892	\$200,000	200,000	200,000	1	1	4,873	1½ paid April, 1910	Raub Aust. Gold Ming. Co., Ltd.	2.35	2.50
1905	\$40,000	40,000	40,000	1	1	—	—	Redhills Tin Mining Co., Ltd.	2.50	3.50
1900	\$110,000	110,000	22,000	5	5	—	3% for year ending 22-1-09	Royal Johore Tin Mining Co., Ltd.	—	1.25
1907	\$350,000	500,000	50,000	10	10	—	—	Salak South, Ltd.	—	1.00
1907	\$80,000	80,000	80,000	1	1	—	—	Sempam Tin Mines, Ltd.	1.00	1.50
1906	\$850,000	850,000	85,000	10	10	25,000	5% interim 1910	Serendah Hydraulic Tin Ming. Co., Ltd.	5.00	5.50
1899	\$230,000	230,000	23,000	10	10	—	3% for ½ year ending 31-12-08	Sipiau Tin Co., Ltd.	1.75	2.25
1909	\$200,000	\$150,000	15,000	10	10	—	—	Sungei Gau Tin Mining Co., Ltd.	—	3.00
1907	\$90,000	70,000	70,000	1	1	—	6½- during 1910	Tekka, Limited	12.50	22.50
1906	\$150,000	150,000	150,000	1	1	—	1½- interim 1909	Tongkah Harbour Tin Dredging Co., Ltd.	12.00	12.50
1902	\$160,000	160,000	160,000	1	1	—	7½- during 1910	Tronoh Mines, Ltd.	15.00	15.50

SINGAPORE SHARE QUOTATIONS.—(CONTINUED)

Date of Formation	Capital	Capital paid up	No. of Shares Issued	Issue Value	Paid up	Reserve	Last Dividend	Name	Buyers	Sellers.
1909	£85,000	78,225	782,250	2/-	2/-			STERLING RUBBER		
1905	£150,000	150,000	1,500,000	2/-	2/-		75% interim	Allagar Rubber Estates, Ltd.	4/2	4/6
1909	£50,000	47,000	470,000	2/-	2/-			Anglo-Malay Rub. Co., Ltd.	20/3	21/9
1904	£30,000	26,750	26,750	1	1		35% interim	Batang Malaka Rubber Estates, Ltd.	2/-	2/3
1906	£80,000	67,800	67,800	1	1		2 1/2% for 1909	Batu Caves Rub. Co., Ltd.	15.11.0	16.0.0
1909	£100,000	74,454	57,816	1	1		6 1/2% for 18 months ending 30-6-10	Batu Tiga (Selangor) Rubber Co., Ltd.	4.1.3	4.7.6
			22,184 1/2	1	15/-			Bukit Kajang Rubber Estates, Ltd.	2.3.3	2.8.0
1907	£30,000	25,500	24,000	1	1		30% for year ending 30-6-10	Bukit Lintang Rubber Estates, Ltd.	1.2.6	1.5.0p.
1903	£70,000	66,700	66,700	1	5/-	2,000	25% interim	Bukit Rajah Rubber Co., Ltd.	4.0.0	4.5.0
1906	£35,000	35,000	35,000	1	1			Castlefield (K.) R. Estate, Ltd.	2.2.6	2.7.6p.
1909	£225,000	176,056	1,760,860	2/-	2/-		50% interim	Chersonese (F.M.S.) Estates, Ltd.	14.17.6	15.10.0
1904	£16,000	16,000	100,000	2/-	2/-		5 1/2% interim	Cicely Rubber Estates Co., Ltd.	5.7.6	5.17.0
1905	£75,000	62,007	620,070	2/-	2/-	1,000	50% interim	Consolidated Malay Rub. Estates, Ltd.	3/1	3/8
1906	£110,000	110,000	110,000	1	1		50% interim for 1910	Damanara (Selangor) Rubber Co., Ltd.	2.3.1	2.5.0
1903	£600,000	447,200	447,200	1	1		15% interim	Duff Development Co., Ltd.	2.3.1	2.5.0
1909	£45,000	42,500	425,000	2/-	2/-		25% interim	Edinburgh Rub. Estates, (Selangor) Ltd.	1.1.	1.3.6
1907	£80,000	70,000	70,000	2/-	2/-		30% interim	Golconda Rubber Co., Ltd.	6.7.6	6.15.0
1909	£82,000	82,000	820,000	2/-	2/-		100% for year ending 30-6-10	Heawood Tin and Rubber Estate, Ltd.	11/-	12/-
1906	£310,000	307,770	307,770	1	1	8,784	15% for eleven months end. 30-6-10	Highlands & Lowds. Para Rub. Co., Ltd.	10/-	11/-
1904	£50,000	30,000	30,000	2/-	1/-	2,500	20% interim	Inch Kenneth Rubber Estates, Ltd.	5.0.0	5.5.0
1909	£200,000	143,750	105,000	1	1			Kam, (P.) R. & T. Co., Ltd. "A" Shares	5/4	6/-
1905	£70,000	70,000	70,000	2/-	2/-			Kapara Para Rubber Estates, Co., Ltd.	4.13.9	5.0.0
1909	£35,000	£21,125	95,000	2/-	2/-			Kota Tinggi Johore Rubber Co., Ltd.	11.15.0	12.5.0
1906	£180,000	180,000	180,000	1	1		75% interim	Kuala Lumpur Rubber Co., Ltd.	3/10	4/6 p.
1907	£100,000	100,000	1,000,000	2/-	2/-		30% interim	Labu (F. M. S.) Rub. Co., Ltd.	8.0.0	8.10.0
1907	£320,000	£232,067 10/-	70,850	1	15/-	3,000	10% interim	Lanadron Rubber Estates, Ltd.	0/3	0/6 p.
1908	£125,000	75,000	60,000	1	1		10% interim	Ledbury Rubber Estates Ltd.	7.5.0	7.17.6
1895	£100,000	98,324 8/-	883,244 1/2	2/-	2/-	4,000	150% interim	Labu (F. M. S.) Rub. Co., Ltd.	13/6	14/6
1907	£160,000	140,000	1,400,000	2/-	2/-		7% for 1909	Lanadron Rubber Estates, Ltd.	4.2.6	4.10.0
1909	£220,000	147,500	150,000	1	3/-		10% interim	Ledbury Rubber Estates Ltd.	3.5.0	3.12.6p.
1906	£400,000	300,000	185,000	1	1		10% interim	Linggi Plantations Ltd.	3.0.0	3.7.6
1909	£210,000	181,250	1,812,500	2/-	2/-		7% for 1909	Linggi Plantations Ltd.	1.12.6	1.17.6p.
1910	£250,000	250,000	250,000	1	1		10% interim	London Asiatic R. & Produce Co., Ltd.	2.3.6	2.6.0
1903	£30,000	22,500	225,000	2/-	2/-		75% interim	Lumut Rubber Estates, Ltd.	12/3	13/3
1906	£85,000	85,000	850,000	2/-	2/-		12 1/2% interim	Lumut Rubber Estates, Ltd.	12/6	14/- p.
1909	£60,000	41,150	35,000	1	15/-		50% for year ending 30-9-10	Malacca Rubber Plants, Ltd.	7.15.0	8.5.0
1904	£25,000	19,092	17,732 1/2	1	12/-			Merlimau Rubber Estates, Ltd.	7.15.0	8.5.0
1905	£100,000	100,000	71,378	1	1		15% interim	Mount Austin (J.) Rubber Estates, Ltd.	5/-	5/6
1907	£100,000	100,000	100,000	1	1		225% interim	Pataling Rubber Estates Synd. Ltd.	1.13.9	1.17.6
1898	£30,000	30,000	300,000	2/-	2/-	3,000		Perak Rubber Plantations, Ltd.	2.13.9	2.16.0
1909	£50,000	36,000	40,000	1	18/-		10% interim	Rembia Rubber Estates Ltd.	6/1 1/2	7/9
1906	£65,000	65,000	65,000	1	1			Sagga Rubber Company, Limited	3/6	5/- p.
1909	£150,000	78,500	14,000 1/2	1	15/-			Sapong Rubber and Tobacco Estates, Ltd.	9.15.0	10.5.0
1909	£120,000	100,000	100,000	1	1		15% interim	Seaford Rubber Co., Ltd.	1.5.0	1.7.6
1906	£200,000	192,500	1,925,000	2/-	2/-		225% interim	Selangor Rubber Co., Ltd.	6.0.0	6.10.0
1907	£60,000	50,000	50,000	1	1		10% interim	Sendayan (F. M. S.) Rubber Co., Ltd.	2.12.6	2.15.0
1906	£110,000	100,000	1,000,000	2/-	2/-			Shelford Rubber Estate, Ltd.	1.6.3	1.10.0p.
1907	£70,000	60,500	60,500	1	1			Sialang Rubber Estates, Ltd.	3.5.0	3.15.0
1904	£60,000	59,500	59,500	1	1		12 1/2% for year ending 31-6-10	Singapore Para Rubber Estates, Ltd.	15/-	20/- p.
1908	£150,000	100,500	100,560	1	1		17 1/2% for year ending 31-3-10	Straits Settlements (B.) Rub. Co., Ltd.	4/6	5/6
1907	£200,000	200,000	200,000	1	1		25% interim	Sungei Choh Rub. Estate, Co., Ltd.	6/9	7/3
1908	£85,000	78,612	786,120	2/-	2/-		12 1/2% interim	Sungei Kapar Rubber Co., Ltd.	3.12.6	4.0.0
1904	£60,000	50,600	506,000	2/-	2/-		5% interim	Sungei Salak Rubber Co., Ltd.	12/-	13/-
							20% interim	Sungei Way (Selangor) Rub. Co., Ltd.	3.18.9	4.5.0
							75% interim	Telau (Johore) Rubber Co., Ltd.	5.7.6	5.17.6
1909	\$120,000	105,000	105,000 w*	1	1			United Serdang (S.) R. Plantations, Ltd.	2.13.9	3.0.0
1909	\$750,000	700,000	140,000	5	5			United Sumatra Rubber Estates, Ltd.	5.5.0	5.10.0
1905	\$200,000	151,500	151,500	1	1	5,250		Vallambrosa Rubber Co., Ltd.	7/4 1/2	8/-
1910	\$500,000	500,000	50,000	10	10		40% interim	Alor Gajah Rubber Estate, Ltd.	1.13.6	1.16.0
1910	\$700,000	700,000	70,000	10	10			Ayer Panas Rubber Estates, Ltd.		
1909	\$300,000	300,000	300,000	1	1			Balgownie Rub. Estate, Ltd.	5.60	6.00
1910	\$200,000	164,285	32,857 1/2	5	5			Bukit Timah Rubber Estates, Ltd.	10.25	10.50
1910	\$600,000	210,000	30,000	10	7			Changkat Serdang Estates, Ltd.	13.00	14.00
1909	\$250,000	200,000	20,000	10	10			Glensely Plantations, Ltd.	7.25	7.50
1910	\$350,000	300,000	300,000	1	1			Haytor Rubber Estates, Ltd.	1.60	1.70
1910	\$350,000	291,000	11,000	5	5			Henrietta Estates, Ltd.	5.50	7.50
1907	\$300,000	170,000	59,100	5	4			Indragiri (S.) R. and Gutta P. Co., Ltd.	12.00	13.00
1910	\$1,000,000	1,000,000	500,000	2	2			Jimah Rubber Estates, Ltd.	0.55	0.65
1910	\$1,250,000	1,250,000	250,000	5	5			Kelemak Rubber Estate, Ltd.	3.00	4.00
1910	\$700,000	600,090 1/2	60,090 1/2	1	1			Kombok Rubber Co., Ltd.	3.00	2.00 dis.
1909	\$400,000	80,000	80,000	5	5			Malakoff Rubber Co., Ltd.	15.00	p. nom.
1909	\$200,000	200,000	200,000	1	1			New Singapore Rubber Co., Ltd.	2.25	2.40
1909	\$500,000	45,000	45,000 1/2	5	5			Nyalas Rubber Estates	6.00	6.25
1910	\$450,000	295,000	35,000	5	2			Palam Limited	0.40	0.50
1910	\$5,000,000	3,675,000	360,000	10	2			Pantai Limited	10.50	11.00
1910	\$200,000	150,000	5,000	1	1			Pegoh, Limited	1.20	1.30
1904	\$100,000	100,000	50,000	2	2	20,000		Port Dickson Rubber Co., Ltd.	30.00	30.50
1910	\$1,500,000	1,500,000	1,500,000	1	1			Pulau Bulang Rub. & Produce Co., Ltd.	10.00	12.00
1903	\$450,000	417,300	208,650	2	2			Pulo Daat Plantations, Ltd.	1.75	1.85
1909	\$250,000	100,000	10,000	10	10			Sandycroft Rubber Co., Ltd.	0.75	1.00
1910	\$600,000	450,000	225,000 1/2	2	2			Sembawang Rubber Plantations, Ltd.	23.50	24.50
1909	\$700,000	165,000	33,000	5	5			Singapore & Johore Rub. Co., Ltd.	0.50	0.60
1910	\$425,000	371,700	37,700 1/2	1	1			St. Helena Rubber Coy., Ltd.	11.50	11.75
1909	\$1,000,000	737,500	737,500 y*	1	1			Sungei Bagan Rubber Co., Ltd.	1.25	1.50
								Teluk Anson Rubber Estate, Ltd.	4.50	4.75
								Ulu Pandan (Singapore) Rub. Estates Ltd.	0.45	0.55
								United Singapore Rubber Estates, Ltd.	1.25	1.35
1903	£400,000	400,000	400,000	1	1			GENERAL		
1907	\$1,500,000	1,065,150	116,450	10	7		10% for year ending 31/12/08	Singapore Electric Tramways, Co., Ltd.	3/3	4/3
1898	\$360,000	360,000	36,000	10	10	170,000	10% for year ending 31-12-08	Eastern Smelting Co., Ltd.	6.15	10.00 n.
1905	\$2,400,000	2,400,000	18,000	100	---	75,000	10% interim	Fraser & Neave, Ltd.	28.00	29.00
1896	\$1,000,000	1,000,000	4,000	100	100	40,600	2 1/2% for year ending 31-10-08	Howarth Erskine, Ltd.	---	54.00
1901	\$34,000	34,000	3,400	10	10		7% for year ending 31-10-08	Katz Brothers, Ltd. Deferred	---	91.00
1899	\$875,000	875,000	6,000	100	100	175,000	12% for year ending 31-12-09	Maynard & Co., Ltd.	---	125.00
1897	£3,500,000	3,500,000	2,500,000	1	1	1,120,000	8% Cum. Prof.	Riley, Hargreaves & Co., Ltd.	23.00	24.00
1903	\$600,000	250,000	25,000	10	10		5% for year ending 31/12/09	Shell Transport and Trading Co., Ltd.	80.00	85.00
1891	\$30,000	30,000	600	50	50	23,000	7% for year ending 31/12/09	Singapore Cold Storage Co., Ltd.	102.00	110.00
1884	\$200,000	200,000	2,000	100	100	75,000	22 1/2% for 1909	Singapore Dispensary Ltd.	4.6.0	4.10.0
1890	\$1,000,000	623,000	2,500	100	50	760,000-1 1/2	12 1/2% for year ending 30-6-10	Straits Ice Co., Ltd.	11.5.0	12.0.0
1887	\$3,000,000	3,000,000	300,000	10	10	1,450,000	10% for year ending 31-7-09	Straits Steam Ship Co., Ltd.	50.00	52.50
							5% interim	Straits Trading Co., Ltd.	215.00	225.00
							10% & 5% bon. for half yr. end 31/3/10	part paid	80.00	90.00p.
								DEBENTURES	52.50	53.50
								Howarth Erskine, Ltd. 6% \$800,000	---	psr.
								Riley, Hargreaves & Co., Ltd. 6% 284,000	1 1/2%	2 1/2% p.
								Singapore Electric Tramways, Co., Ltd. 5%	---	---
								Singapore Municipal 5%	---	---
								" 4 1/2% of 1907	---	---
								" 4 1/2% of 1909	---	---
								" 4%	---	---

152,800 unissued
 43,949 6% debenture
 54,500 £1 Prefs issued
 45,500 £1 " unissued
 100,000 5/- Ord. "
 6,250 unissued
 £40,000 6% Debentures
 200,000 unissued

175,000 unis. "A" shares
 Sundry Reserves.
 5,000 issued £1 prem.
 50,220 unissued
 16,756 " "
 221 7 1/2% Debentures
 8,550 unissued

25,000 unissued
 £10,000 Convertible 6% Debentures issued
 12,200 shares unissued
 20,000 unissued
 262,500 "
 10,000 "
 50,000 "

16% Deb. Stock Convble.
 7,143 unissued
 75,000 unissued.
 67,750 "
 10,000 "
 100,00

YOKOHAMA SHARE QUOTATIONS

COURTESY A. C. HUTTON POTTS, SHARE AND GENERAL BROKER, YOKOHAMA, JANUARY 26, 1911.

STOCKS.	CAPITAL.	NO. OF SHARES.	ISSUE VALUE.	AMOUNT PAID UP.	DATE.	LAST DIV- IDEND.	FOR TERM.	CLOSING QUOTATION.
Brett & Co., Ltd.	-Y- 28,000	2,800	-Y- 10	-Y- 10	31-12-09	12½%	for 1 year	15 Sales
Club Hotel, Ltd.	185,000	1,850	100	100	31-3-10	6%	for 1 year	70 Sales
Grand Hotel, Ltd.	500,000	5,000	100	100	31-6-10	5%	for 1 year	90 Sales.
Helm Bros., Ltd.	186,000	3,720	50	50	31-12-10	17½%	for 1 year	95 Sales.
Langfeldt & Co., Ltd.	100,000	2,000	50	50	30-6-09	6%	for 1 year	60 Sellers.
C. Nickel & Co., Ltd.	500,000	20,000	25	25	31-10-10	14%	for 1 year	65 Sellers.
Thwaites, Limited.	100,000	2,000	50	50	First Year	—	—	55 Sales.
Yokohama Engine and Iron Works	500,000	10,000	50	50	31-5-09	—	for 1 year	35 Sales.
Oriental Hotel, Ltd., Ordinary	250,000	3,000	50	50	31-8-07	12%	for 1 year	50 Sales
Oriental Hotel, Ltd., Preference		2,000	50	50		8%	for 1 year	52:50 Sales
The Union Estate and Investment Co., Ltd.	1,000,000	10,000	100	100	30-9-09	7%	for 1 year	100 Nominal.
The Clifford Wilkinson Tansau Mineral Water Co., Ltd.	500,000	5,000	100	100	31-12-09	7%	for 1 year	100 Buyers.

A 285,000 unissued.
C 475,000 unissued.

B 390,000 issued.
D 375,800 issued.

DEBENTURE LOANS.	AMOUNT OF LOAN.	FACE VALUE OF DEBENTURES.	RATE OF INTEREST.	INTEREST PAYABLE.	CLOSING QUOTATION.
Yokohama United Club.	230,000.00	100.00	6%	30 June and 31 Dec.	102 Nominal.
Oriental Hotel, Limited.	350,000.00	100.00	8%	1 April and 1 Oct.	103 Sales.
Union Estate and Investment Co., Limited.	250,000.00	100.00	6%	30 June and 31 Dec.	100 Sales.

JAPANESE STOCKS.	FACE VALUE.	AMOUNT PAID UP.	LAST DIVIDEND.	DIVIDEND PAYABLE.	17TH JANUARY, 1911.	24TH JANUARY, 1911.
Bonds & Debentures.						
Exchequer Bonds 3rd issue.	-Y-100	-Y-100	5%	March and Sept.	-Y-101.20	101.30
Railway Bonds (Ko-Gobu)	100	100	5%	June and Dec.	" 99.70	99.75
4% Imperial Loan Bonds (1st issue)	100	100	4%	June and Dec.	" 93.45	93.50
4% Imperial Loan Bonds (2nd issue)	100	100	4%	March and Sept.	" 94.20	94.30
Special 5% Bonds (issued 1906)	100	100	5%	June and Dec.	" 99.70	99.70
Yokohama Water Works Bonds	100	100	6%	June and Dec.	" 101.50	101.50
Yokohama City Public Loan Bonds	100	100	6%	March and Sept.	" 103.80	103.80
Railways & Electric Trams.						
Tokyo Railway Company, Limited	50	50	7%	June and Dec.	" 72.95	72.95
Yokohama Electric Tramway Company, Limited	50	50	5%	July and Jan.	" 54.00	53.50
Keihin Electric Tramway Company, Limited	50	50	6%	June and Dec.	" 43.05	42.60
Cotton Spinings.						
Kanegafuchi Cotton Spinning Company, Limited	50	50	12%	July and Jan.	" 105.95	106.00
Fuji Gassed-yarn Company, Limited	50	50	6%	June and Dec.	" 94.40	91.70
Tokyo Cotton Spinning Company, Limited	50	50	7%	July and Jan.	" 43.60	43.15
Imperial Hemp Weaving Company, Limited	50	50	10%	July and Jan.	" 9.50	70.00
Nissin Boshiki Kaisha	50	17½	Nil	June and Dec.	" 12.20	12.15
Sugar & Beer Cos.						
Dai-nippon Sugar Refinery Company, Limited	50	50	Nil	May and Nov.	" 45.00	46.00
Ensuiko Sugar Refinery Company, Limited	50	20	20%	June and Dec.	" 48.60	49.70
Dai-nippon Beer Company, Limited	50	50	12%	July and Jan.	" 80.30	80.80
Kirin Brewery Company, Limited	50	50	7%	July and Jan.	" 53.00	53.00
Docks & Steamships.						
Yokohama Dock Company, Limited	50	33	12%	June and Dec.	" 59.00	59.50
Nippon Yusen Kaisha	50	50	10%	May and Nov.	" 96.94	97.40
Hokkaido Tanko S. S. Company, Limited	50	50	Nil	July and Jan.	" 28.60	27.85
Miscellaneous.						
Tokyo Electric Light Company, Limited	50	50	12%	June and Dec.	" 82.75	82.90
Tokyo Gas Company, Limited	50	50	13%	July and Jan.	" 82.00 ex New	81.35
Yokohama Union Electric Light Company, Limited	50	50	13%	June and Dec.	" 106.00	106.50
Fuji Paper Mills	50	50	6%	June and Dec.	" 32.00	32.00
Hoden Petroleum Company, Limited	50	50	12%	April and Oct.	" 63.55	63.35
Tokyo Rope Manufacturing Company, Limited	50	50	16%	June and Dec.	" 106.00	106.00
Tokyo Stock Exchange Company	50	50	15.04%	June and Dec.	" 174.30	175.80

BANGKOK SHARE QUOTATIONS

(COURTESY MESSRS. EDWARDS & CO., BANGKOK, SIAM.) JANUARY 26, 1911.

NAME.	BUYERS	SELLERS	LAST SALES.	ESTABLISHED.	CAPITAL.	NO. OF SHARES.	ISSUE VALUE.	AMOUNT PAID UP.	RESERVE FUND	LAST DIVIDEND
Siam Electricity Co., Ltd.	Tcs. 300	Tcs. 325	Tcs. 325	1901	£ 300,000	30,000	£ 10—	£ 300,000	Tcs. 491.338	12% Tcs. 4 bon.
Paknam Railway Co., Ltd.	" 200	" —	" 220	1893	Tcs. 400,000	5,000	Tcs. 80	Tcs. 400,000	" 37,566	14%
Siam Tramway Co., Ltd.	" —	" —	" 103	1905	" 1,450,000	6250 Shares 7250 Deb. 1000 P. Shares	" 100	" 2,230,000	" 1,875	—
Meklong Railway Co., Ltd.	" 90	" 100	" 90	1907	" 2,230,000	22,300	" 100	" 223,000	" 28,000	5%
Bangkok Manufact. Co., Ltd.	" —	" —	" 132	1898	" 400,000	4,000	" 100	" 400,000	" 60,000	7% per for 6
Bangkok Dock Co., Ltd.	" —	" 135	" 135	1865	" 1,000,000	10,000	" 100	" 950,000	" 220,000	months
Siam Steam Packet Co.	" 80	" 909	" 90	1898	" 190,000	3,800	" 50	" 190,000	" 34,000	5%
Siam Commercial Bank	" 1,000	" 1,500	" 1,000	1906	" 3,000,000	3,000	" 1,000	" 3,000,000	" 338,850	4% for 6 mos.
Menam Motor Boat Co.	" 75	" 90	" 90	1905	" 200,000	2,000	" 100	" 200,000	" —	none
Transport Co., Motor.	" —	" 75	" 100	1906	" 200,000	2,000	" 100	" 200,000	" —	—
Jenderata Rubber Co.*	" —	" 325—	" 325	1906	£ 40,000	4,000	£ 10	£ 7.—paid	" —	—
Bagan Rubber Co.	" —	" 100	" 100	1907	Tcs. 300,000	3,000	Tcs. 100	Tcs. 40 per share	" —	—
Siam Steam Navigation Co., Ltd.	" 300	" 325	" —	1909	" 2,000,000	10,000	" 200	" —	" 10,000	—
Siam Stone Works, Ltd.	" —	" —	" 100	1909	" 350,000	3,500	" 100	" 350,000	" —	6% half year
Kombok Rubber Co.	" 25	" 85	" 32	1906	" 300,000	30,000	" 100	" 7.—per Share	" —	—

PHILIPPINE SHARE REPORT

COURTESY B. A. GREEN, GENERAL SHARE, BOND AND INVESTMENT BROKER—Manila, P. I., February 10, 1911.

NAME	CLOSING QUOT'N	WHEN INCORPORATED	AUTHORIZED CAPITAL	ISSUE VALUE OF SHARES	NUMBER OF SHARES	NUMBER OF SHARES SUBSCRIBED	PAID UP	RESERVE FUND	WORKING ACCOUNT	DATE	LAST DIVIDEND
American Drug Store.....	.....	1908	P 100,000	P1,000	100	51	P1,000	P5,000	P 50,000	June 30, 1910.	.....
Antamok Valley Mining Co.....	P0.40	1909	500,000	1	500,000	320,000	1	.....	.....	.....	First year.....
Banco Español Filipino.....	P255.	1851	3,000,000	200	15,000	15,000	200	408,715	.....	July 1, 1910.	10% for 1910.....
Baybay Valley Oil Co.....	100.	1909	100,000	100	1,000	.....	100	.....	.....	.....	First year.....
Benguet Commercial Co.....	85.	1908	200,000	100	2,000	736	100	.....	.....	.....	8% for 1906.....
Benguet Consolidated Mining Co....	0.50	1905	2,000,000	2	1,000,000	495,000	2	.....	.....	.....	.....
Bua Mining Co. Common.....	90.	1905	750,000	100	7,000	3,366	100	.....	.....	.....	.....
Preferred.....	140.			100	500	500	100	.....	.....
Cadwallader-Gibson Lumber Co....	.....	1908	1,000,000	100	10,000	8,650	100	.....	.....	.....	.....
Camote-Clayton Mining Co.....	.....	1909	400,000	10	40,000	26,000	10	.....	.....	.....	First year.....
Compania Maritima.....	65.	1894	510,000	100	5,100	5,100	100	.....	.....	.....	20% for 1902.....
East Batan Coal Mining Co.....	33.	1909	3,000,000	50	60,000	40,000	50	.....	.....	.....	First year.....
El Varadero de Manila.....	80.	1885	450,000	100	4,500	4,500	100	288,955	134,715	Aug. 31, 1910	3 1/2% interim 1910.....
Electrical Supply Co.....	.....	1909	100,000	100	1,000	280	72	.....	.....	.....	First year.....
Export & Import Lumber Co.....	.....	1908	200,000	200	1,000	1,000	200	.....	.....	.....	.....
Escolta Press Inc.....	100.	1907	50,000	100	500	320	100	.....	.....	.....	12% for 1909.....
Fabrica de Hielo de Manila.....	58.	1894	350,000	50	7,000	7,000	50	.....	.....	.....	14% for 1910.....
Germinal Cigar Factory.....	525.	1900	1,500,000	500	3,000	3,000	500	.....	.....	.....	12% for 1909.....
H. E. Heacock & Co.....	.....	1909	100,000	100	1,000	800	100	.....	.....	.....	First Year.....
Headwaters Mining Co.....	10.	1908	600,000	10	60,000	59,800	10	.....	.....	.....	.....
Insular Lumber Co.....	140.	1907	2,000,000	200	10,000	9,000	200	.....	.....	.....	.....
Lepanto Mining Co.....	.....	1906	1,000,000	100	10,000	8,000	100	.....	.....	.....	.....
Juan Seiboth Co.....	.....	1908	150,000	20	7,500	500	20	.....	.....	.....	.....
La Concha Button Factory.....	90.	1905	75,000	100	750	530	100	.....	.....	.....	15% for 1909.....
Los Banos Improvement Co.....	150.	1908	100,000	200	500	500	200	.....	.....	.....	16% for 1908.....
Lambert, Springer Co.....	.....	1908	200,000	1,000	200	80	1,000	.....	.....	.....	.....
Luzon Stevedoring Co.....	25.	1909	250,000	25	10,000	4,200	25	.....	.....	.....	.....
Luzon Sugar Refining Co.....	18.	1882	700,000	100	7,000	7,000	100	.....	.....	.....	3% for 1907.....
Manila Electric Ry. & Light Co....	130.	1903	12,000,000	200	60,000	.....	200	.....	.....	.....	4% for 1909.....
Manila Hotel Co.....	100.	1909	400,000	100	4,000	3,500	100	.....	.....	.....	Under Construction..
Mindanao Herald Publishing Co....	.....	1907	15,000	100	150	75	100	.....	.....	.....	1/2% for 1908.....
Muyot Mining Co.....	3.30	1909	500,000	10	50,000	.....	10	.....	.....	.....	First Year.....
Paracale Gold Dredging Co.....	15.	1907	£10,000	£1	10,000	10,000	£1	.....	.....	.....	£1 for 1908-9.....
Paracale Ext. Gold Dredging Co....	10.	1909	P450,000	P10	45,000	.....	P10	.....	.....	.....	First Year.....
Philippine Publishing Co.....	120.	1907	600,000	200	3,000	2,187	200	.....	.....	.....	10% for 1910.....
Philippine Co., Ltd.....	5.	1904	750,000	10	75,000	75,000	10	.....	.....	.....	.....
Philippine Gold Dredging Co.....	8.	1907	200,000	10	20,000	20,000	10	.....	.....	.....	.....
Philippine Exploration Co.....	.....	1908	2,000,000	10	200,000	120,000	10	.....	.....	.....	.....
Port Banga Lumber Co.....	.....	1908	100,000	100	1,000	934	100	.....	40,000	Oct 1, 1910.	.....
Rosenstock Publishing Co.....	.....	1908	75,000	10	7,500	6,000	10	.....	.....	.....	.....
San Nicolas Iron Works.....	100.	1901	300,000	500	600	600	500	.....	.....	.....	15% for 1903.....
San Mauricio Gold Mining Co.....	.....	1908	4,000,000	200	20,000	20,000	200	.....	.....	.....	.....
Sanitary Steam Laundry.....	20.	1908	100,000	20	5,000	3,900	20	.....	.....	.....	5% for 1910.....
Tarlac Railway Co.....	40.	1906	150,000	100	1,500	1,500	100	.....	.....	.....	.....
Tumbaga Mining Co.....	0.35	1910	2,000,000	2	1,000,000	772,000	2	.....	.....	.....	Reorganized 1910....
Union Hemp Machine Co.....	.....	1909	50,000	10	5,000	2,600	10	.....	.....	.....	First Year.....
Walter E. Olsen Co.....	100.	1909	500,000	100	5,000	2,033	100	.....	.....	.....	First Year.....
Zamboanga Cold Storage Co.....	125.	1903	40,000	100	400	200	100	.....	.....	.....	20% for 1909.....

PHILIPPINE BONDS

	DATED	AUTHORIZED	ISSUED	OUTSTANDING	PAR VALUE	RATE OF INT.	WHEN PAYABLE	LAST QUOTATION
Philippine Friar Land Bonds.....	Feb. 1st, 1904	\$7,000,000	\$7,000,000	\$7,000,000	\$ 100	4%	Feb. 1, 1914	101 1/2
Public Works and Permanent Improvement Bonds.....	March 1, 1905	\$5,000,000	\$2,500,000	\$2,500,000	\$ 100	4%	March 1, 1915	101 1/2
Do.....	Feb. 1, 1906	.....	\$1,000,000	\$1,000,000	\$ 100	4%	Feb. 1, 1916	101 1/2
Manila Sewer and Water Works Improvement Bonds.....	June 1, 1905	\$4,000,000	\$1,000,000	\$1,000,000	\$ 100	4%	June 1, 1915	101 1/2
Do.....	Jan. 2, 1907	.....	\$2,000,000	\$2,000,000	\$ 100	4%	Jan. 2, 1917	101 1/2
*Philippine Railway First Mortgage Four per cent Thirty Year Sinking Fund Gold Bonds.....	July 1, 1907	\$15,000,000	\$5,736,000	\$5,736,000	\$1000	4%	July 1, 1937	95
B. P. O. Elks First Mortgage 7% Five-Fifteen Year Sinking Fund Gold Bonds.....	July 1, 1908	\$75,000	\$45,000	\$45,000	\$ 50	7	July 1, 1923	50 1/2

*Payment of interest guaranteed until maturity or redemption by the Philippine Government

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